

LINKSTM 2001

PLAYER'S MANUAL

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Special Thanks to:

The USGA (United States Golf Association)

David Joy as “Old Tom Morris”

St. Andrew’s Links Trust

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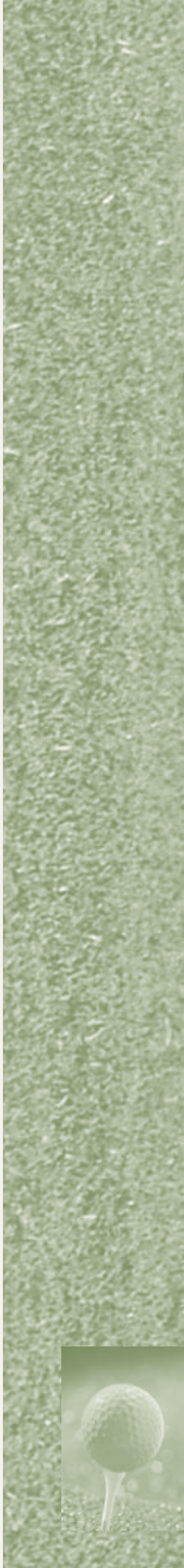
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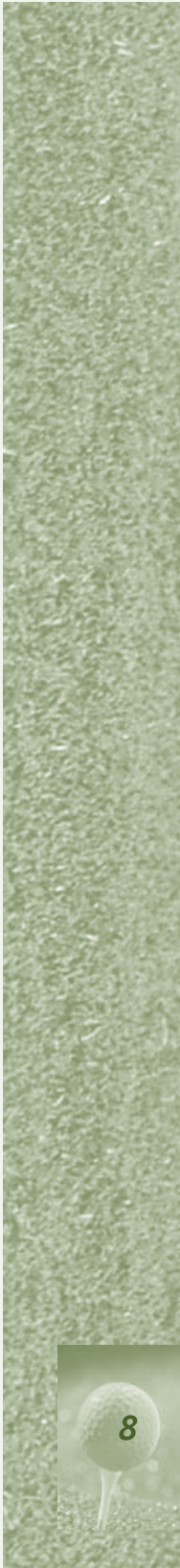


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Chapter 1

Getting Started

Installing Links 2001™

To install Links under Microsoft® Windows® 95, Windows 98, Windows NT or Windows 2000

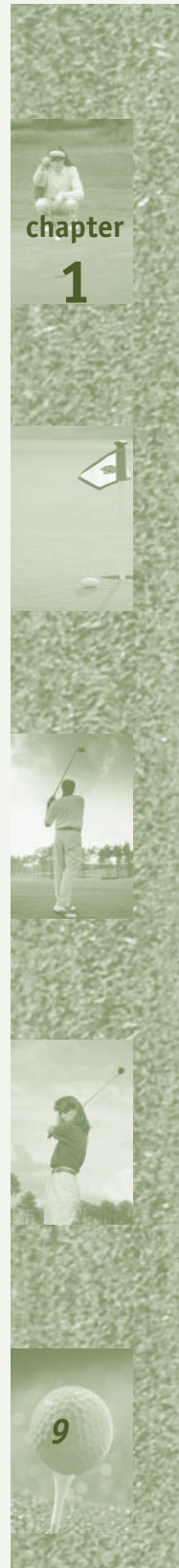
1. If you have the Auto-install feature, insert the CD in your CD-ROM drive and follow the instructions on the screen.
-or-
1. Insert the Links CD 1 in your CD-ROM drive.
2. Click **Start**.
3. Click **Run**.
4. Type: D:\SETUP, and then press **ENTER**.
***Note** D: designates the drive letter of your CD-ROM drive.*
5. Click **OK**.
6. The setup window appears and will guide you through the installation process.

Starting Links

During installation, Links creates its own Program group on your Start menu.

To start Links

1. Click **Start** (or go to Step 4 if you made a desktop shortcut during installation).
2. Point to **Programs**.
3. Point to **Microsoft Games**.
4. Point to **Links 2001**.
5. Double-click the **Links icon**.





The first screen to appear is the Links Main Screen. Two useful options can be accessed from this screen:

Help

This manual covers the “basics” of installing, loading and playing Links. For more in-depth information, you are referred to Links Help. When you click a Help button or press F1, the Help screen appears. Use

the Help Index with its comprehensive list of topics by either typing in a topic or scrolling through the Index.

Lessons

If you are new to Links, we highly recommend viewing the Links Lessons to learn how to play the game. Advanced players may also discover ways to improve their skills with these lessons, which include Swing Type, Menu and Aiming, Golf Tools, Shot Types, Players in the Game and MSN Zone.

Other Main Screen Options

Quick Start—The fastest, easiest way to start playing Links. See chapter 3—“Playing Links 2001.”

Play Golf—Click this to customize options before playing Links. See chapter 5—“Customizing the Gameplay.”

Players—Create or edit new or existing golfers. See pages 27-28.

Videos—View video presentations about the Links 2001 courses.

Online Play—Go to MSN Gaming Zone, join the Links Tour or connect directly with friends via LANs or the Internet. See chapter 7—“Online Play.”

Options—Customize sound, graphics, and play options.

Exit—Click to return to Windows.

Chapter 2

Welcome to Links 2001!

If this is your first time playing Links, you are about to enjoy the finest golf game in the world. If you are an experienced “Linkster,” here is what we’ve added to make the best even better:

The Arnold Palmer Course Designer

Now you can create your own courses in exquisite Links-quality detail using a modified version of the actual Links rendering engine.

Refer to chapters 8-14 for detailed information.

Links 2001 Courses

St. Andrews Links, Old Course (Scotland)—The birthplace of golf, as well as the site of the Millennium Open—the inaugural British Open of the 21st century.

Aviara (Carlsbad, California)—An Arnold Palmer design with unparalleled terrain, water, and rockwork.

Westfields (Virginia)—An instant classic, carved out of 300 acres of oak forest and featuring a colonial-style clubhouse and a Civil War burial mound off the 13th fairway.

Chateau Whistler (Canada)—Originating on the foothills of the Canadian Rockies, this majestic course climbs toward the summit and then plunges down to the homeward holes, providing some of the most breathtaking vistas imaginable.

Princeville (Kauai, Hawaii)—This course, repeatedly crowned “Number One in Hawaii,” winds through lush tropical mountains and valleys.

Mesa Roja (Fantasy Course)—Designed by the talented Links team and featuring PGA golf professional Lanny Nielsen, this course was inspired by the unique red rock and desert scenery of the southwestern U.S.

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Other New Features

14 New Golfers—Play with Arnold Palmer, Sergio Garcia, Annika Sorenstam, or any of eleven other flawlessly rendered golfers and enjoy each one's unique comments and personality.

User-Friendly Additions—A new Quick Start option gets you on the tee with only a few clicks; interactive lessons instruct you on how to play and customize Links 2001; an "AID System" reacts to recurring gameplay mistakes with helpful suggestions.

Online Improvements—MSN Gaming Zone integrates fully with Links 2001, making multiplayer games more accessible; improved connectivity offers better input and feedback from all online players; Ready Golf play option speeds up Internet play while still allowing all players to see each other's shots.



Chapter 3

Playing Links 2001

If you want to customize the gameplay settings before playing, or if you want to go to Practice, refer to Chapter 5—“Customizing the Gameplay.” If you want to play as soon as possible, a Quick Start option is available.

Quick Start

If you choose to “Quick Start,” all you need to select is a course to play and the player(s).

To Quick Start

1. Click **Quick Start** on the Links Main Screen.
2. From the Quick Start screen, select a course in the **Course To Play** pull-down.
3. Click **Single Player, Two Players, Three Players,** or **Four Players.**
4. Select which players you want from the **Players in the Game** pull-down(s).
5. Click **Begin Play.**

On the Tee

You’re ready to play! When the course finishes loading, a “Hole Preview Cam,” showing the layout of the first hole, is superimposed over the Links “Main Cam.”

- Click **OK** to close the Hole Preview Cam.

The Links Main Cam

The Links “Main Cam” is the primary game screen. Once the Hole Preview Cam is closed, the Main Cam is unobstructed except for seven small information displays:



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Course Information—Displays the course, hole number and par for the hole.

Player Information

Displays the player next to hit, the number shot the player is about to hit, and the player's score as of the last completed hole.



Arnold Palmer 1st Shot 475y

Elevation Information—Displays the relative differences in elevation between the ball, the Aiming Marker (see below), and the pin.



Slope Indicator—Displays the angle of the terrain on which the ball lies.



Wind Indicator—Displays the direction and strength of the wind (if applicable).



Lie Indicator—Displays the type of terrain on which the ball lies.



Swing Gauge—Displays the club currently selected.

Note: The display in the upper-right corner is the “Top Cam”; the In-game Menu tab is in the lower-right corner. For information on these features, as well as the pop-up menus located at the bottom of the Main Cam, refer to the Help Index (“Top Cam”, “In-game Menu”, “Pop-up Menus”) or see chapter 4—“Using the Links In-game Pop-up Menus”.

All you need to do now is select a club, aim your shot and swing. The following are basic instructions; For more detailed information on any topic, refer to that topic in the Help Index.

Selecting a club

A club is automatically selected for you, but you are free to change it.

To select a club

1. Move the pointer to the bottom of the screen to reveal the pop-up menu tabs.
2. Click **Clubs**.



3. When you decide on a club, click it to select it.

Note: Move the pointer over any club on the Clubs menu to display the club's average distance.

Aiming

When you are ready to tee off, the Aiming Marker (a red and white striped pole) appears. For maximum accuracy, you must position the Aiming Marker in the direction you want to hit the ball.

To aim your shot

1. Hold down the left mouse button to display the Aiming Marker. This can be done in either the Main Cam or the Top Cam.
2. Move the Aiming Marker to the direction you want the ball to go.

Note: Unless you are using the "Easy Swing" (refer to the Help Index (Topic: "Easy Swing Lesson"), the Aiming Marker has no effect on the distance of your shot, only the direction.

3. When the Aiming Marker is in position, release the left mouse button. To make the Aiming Marker appear or disappear, click the right mouse button.

Note: The Aiming Marker turns yellow when placed in an invalid position. Also, when used on the green in the Main Cam, a white arrow—called the Breakline Indicator—appears at the base of the Aiming Marker. This indicates the steepest slope of the terrain in relation to the Aiming Marker and is especially useful when putting. The breakline can be displayed off the green as well by holding down the **SHIFT** key while aiming.

Swinging

Links offers three swing types: Classic, Easy Swing, and PowerStroke™ (see chapter 6—"Using the PowerStroke Swing"). The first time you use Quick Start, the Classic swing type is automatically selected.

For instructions on changing swing types during a round, see page 18, "Shot Options."





To use the Classic swing (two- or three-click)

1. Position the cursor over the swing gauge in the bottom center of the Main Cam.
2. Click and hold down the left mouse button to start the swing.

-or-

3. Click the left mouse button.
4. A yellow indicator band moves around the swing gauge. When it

reaches the green line at the 12 o'clock position, release the left mouse button (or, click it again—see Step 2). A red line, called the *power mark*, marks the release point.

Note: If the power mark is left of 12 o'clock (early), your swing has less power, but more control. If it is right of 12 o'clock (late), your swing has more power and less control.

5. The indicator band continues to the end of the swing gauge, reverses direction and is now red as it moves back around. When it reaches the green line at the 6 o'clock position, click the left mouse button again. A yellow line, called the *snap point*, appears.

Note: The snap point determines the direction of your shot: Left of 6 o'clock, the ball goes left and hooks, right of 6 o'clock, the ball goes right and slices—the more off-center, the greater the effect.

Notes

- The swing gauge changes when you're chipping or putting, providing shorter, more controlled swings, and the snap point is more forgiving than when you're taking a full swing.
- Unlike other clubs, the putter has no average distance, so the distance a putt rolls is determined by where the power mark is set and the contours of the green.
- For more information on chipping and putting, see "Swing Type Lesson" or refer to the Help Index (Topic: "Chipping/ Putting Swing").

Post Shot Options

After each shot, the Post Shot Selection dialog appears, providing information about the shot, options in case of penalties, and selections for your next shot. The three graphical indicators on the left show (1) the distance the shot traveled before landing (in air), (2) total distance, and (3) the distance left to the hole (to pin). The terrain on which the ball is currently lying is also displayed. Additionally, there are several buttons in the Post Shot Selection dialog.



Replay—View an instant replay of the last shot, either from where it was hit (forward) or where it landed (reverse).

Rehit—Re-hit the last shot. This adds an extra stroke to your score. If “gimmes” are allowed, the Rehit button is replaced with the Gimme button (see below) in certain situations.

Gimme—Take a “gimme.”

Note: Refer to “Mulligans and Gimmes,” page 25, for more information.

Pick Up Ball—Quit the current hole and advance to the next. Your score for the hole will be a 12.

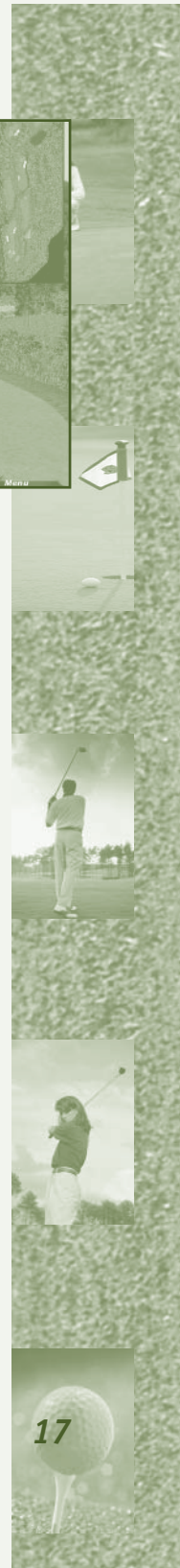
Save Shot—Save the instant replay of the last shot so it can be viewed later.

Drop—Drop the ball at a different location. This is necessary if your shot lands in a hazard or on an unplayable lie.

Refer to “Drop Lesson” in the Help Index for more information and instructions on how to drop.

Mulligan—Take a “mulligan.”

Note: Refer to “Mulligans and Gimmes,” page 25, for more information.



Chapter 4

Using the Links In-game Pop-up Menus

There are five pop-up menu tabs ("Rotate", "Shot Options", "Display", "Clubs" and "Menu") located along the bottom of the Links Main Cam. Of these, only "Menu" (in-game menu) is visible at all times. To reveal the other four, move the pointer to the bottom of the screen.

Rotate

Before each shot, the golfer is positioned to face the center of the fairway or the green. Occasionally, you may want or need to rotate the golfer so that he/she faces a different direction.



To rotate the golfer

1. Move the pointer to the bottom of the Main Cam and click **Rotate**.
2. Click the flag icon to reposition the golfer to face the flagstick on the green. Click the Aiming Marker icon to reposition the golfer toward wherever you've set the Aiming Marker. Click the right or left arrow to rotate the golfer in that direction.
3. When you're finished, click **OK**. The Main Cam will redraw in the new direction.

Shot Options

Five shot options are available in this menu: Swing Options, Gimme, Skip to Player, Address, and Drop.

To select a Shot Option

1. Move the pointer to the bottom of the Main Cam and click **Shot Options**.
2. Click the option you want.

Note: The Gimme option is disabled if you chose not to allow gimmies before starting the round. "Address" will toggle the golfer away from, and back to, the ball (see below).



Swing Options (ALT+W)—Select one of three swing types: Classic, Easy, or PowerStroke.

For more information on swing types, view the “Swing Type Lesson” or refer to the Help Index (Topic: “Swinging”). Also, refer to Chapter 6—“Using the PowerStroke Swing.”

Gimme (ALT+E)—Take a “gimme” if your ball is within a pre-determined distance of the pin.

Refer to “Mulligans and Gimmes,” page 25, for more information.

Skip to Player (ALT+K)—Allow players to hit out of order.

Note: *All players must be off the tee before any player(s) can go one shot ahead.*

Address (ALT+A)—Move the golfer away from (or back to) the ball to allow a practice swing.

Drop (ALT+R)—Drop the ball at any time during a round.

Refer to the Help Index (Topic: “Drop Lesson”) for instructions on how and when to drop.

Display

A wide selection of secondary windows that provide useful graphical and statistical information can be displayed over the Main Cam and are available from the Display Menu (descriptions below).

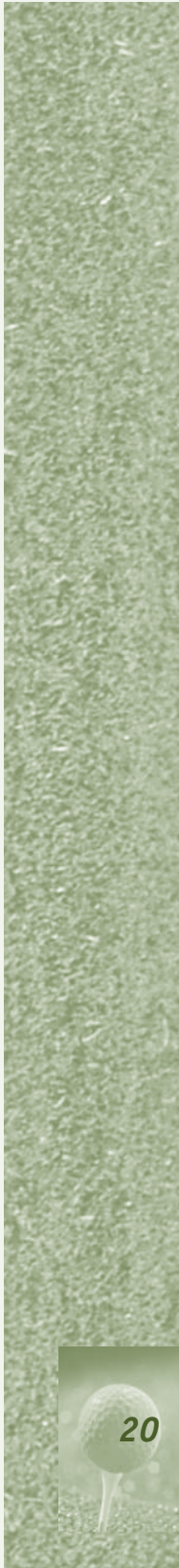
To open the Display menu

1. Move the pointer to the bottom of the Main Cam and click **Display**.
2. Click the option you want.

Note: *Selecting secondary windows make them appear on the Main Cam. Click Tracer and Grid (see below) to turn (toggle) them on and off.*

Cameras (ALT+C)—Select from multiple cameras, including Golfer Cam, Landing Cam, Main Cam, Pin Cam, Profile Cam, Side Cam, Smart Cam, and Top Cam, which offer different views of the golf course and your shots.

Note: *Up to eight secondary camera windows can be superimposed over the Main Cam at one time. These can be resized, moved, and closed like a standard Microsoft window. Refer to the Help Index (Topic: “Cameras”) for detailed information on in-game cameras.*



Info Views—Displays a chat window (available when playing on-line) or a camera (window) with information about the previous shot.

Spot Pin (ALT+P)—The flagstick zooms toward, then away from, the golfer in a direct line with the green.

Tracer (ALT+T)—Leaves a visible line showing the flight path of a ball.

Grid (ALT+G)—Superimposes a grid over the terrain to make contours easier to read. This feature is especially useful when putting.

Note: Unless modified, the Grid defaults to ON when golfers are on the green.

Score Card (ALT+SPACEBAR)—Displays players' scores for the current round.

Hole Preview (ALT+B)—Displays the top view of the hole currently being played.

Player Stats—Displays golfers' individual playing statistics.

Game Stats—Displays the statistics compiled during the current round.



Clubs

The Clubs menu displays all available clubs in your “golf bag,” allows you to change your swing setup (“Setup”), and offers all available shot types (Straight, Draw, Fade, Punch, Flop, and Chip).

To open the Clubs menu

- Move the pointer to the bottom of the Main Cam and click **Clubs**.

Notes

- The club selection on the Clubs menu can be customized. Refer to the Help Index (Topic: “Players Screen”) for details. For instructions on selecting a club, refer to page 14.
- View the “Shot Type Lesson” or the “Advanced Shot Setup Lesson” for in-depth explanations of techniques and available options.

Menu

- Click **Menu** in the lower-right corner of the Main Cam to view miscellaneous options:

Add Player—Add a new player to the group playing the current round.

Remove Player—Remove a player from the group playing the current round.

Preferences—Customize the gameplay with Sound Options, Game Settings, Graphic Settings and Multiplayer Settings (if applicable).

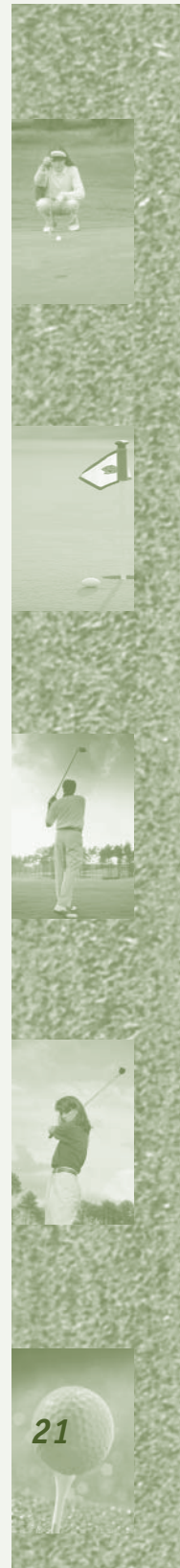
For more information, see Chapter 5—“Customizing the Gameplay,” or refer to the respective topics in the Help Index.

Help—Go to the Links Help screen.

Save Game—Save your game so you can resume it later.

End Round—Exit the current round without exiting the Links program.

Exit Links—Exit to Windows.





Chapter 5

Customizing the Gameplay

Quick Start (see page 13), is a fast and easy way to get on the tee, but in order to customize a round of golf to your personal preference—and to see what Links 2001 really has to offer—click Play Golf from the Links Main Screen.

The Play Golf Screen

There are five options available to you on the Play Golf screen:

Resume—Continue a previously-saved round.

Refer to the Help Index (Topics: “Resume a Saved Game” and “Resume a Tournament”) for additional details.

Saved Shot—View a previously-saved instant replay.

Refer to the Help Index (Topic: “Viewing Saved Shots”) for additional details.

Virtual Tournament—Compete just like the pros on the Tour in a four-round tournament against virtual opponents.

Refer to the Help Index (Topic: “Virtual Tournament”) for additional details.

Practice

Go to Practice mode, where you can work on technique, see how a particular course plays, or experiment with various gameplay options without playing an actual scored round.

Refer to the Help Index (Topic: “Practice Options”) for additional details.

New Round

Start a customized round of golf. Clicking this button takes you to the New Round screen, where you begin by choosing a course and the number of holes to play.

To choose a course and how many holes to play

1. Under **Course to Play**, click the drop-down button immediately under the course “snapshot” window. The list of currently available courses is displayed.
2. Click the course you want to play.
3. Click the button directly below the course selection drop-down to choose to play 18 holes, Front 9 or Back 9 on the selected course.

Note: From the New Round screen, you can also access the Course Manager dialog, which allows you to add or delete courses, check the file size of your courses, change the directory in which course files are stored, and verify which players are to be recorded for the following round. Refer to the Help Index (Topic: “Course Manager”).

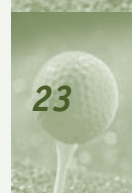
Once the course and number of holes have been defined, move down to select the environmental options, and then over to customize the course conditions:

To select environmental options

1. Under **Options**, click the drop-down button(s).
2. Click your preferred Galleries and Tournament Objects options.



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To customize course conditions

1. Under **Conditions**, click the drop-down button(s) next to each of the four course elements to display the possible conditions.
2. Click your preferred settings for the course conditions:

Wind conditions—affects the distance and arc of the ball in flight. Choose No Wind, Breezy, or Windy.

Green Speed—determines the rolling speed of the ball on the green. Choose Slow, Medium, or Fast.

Green Hardness—determines how the ball bounces when it lands. Choose Soft, Moderate, or Firm.

Pin Positions—places the holes on the greens in different positions. Choose Easy, Moderate, or Difficult.

Notes

- Refer to the Help Index (Topic: “Course Settings”) for more details on course conditions.
- The Custom Pin Position option allows you to create your own pin placements on each green rather than using pre-defined pin specifications (Easy, Moderate, or Difficult). For instructions, refer to the Help Index (Topic: “Custom Pin Placement”).

Modes of Play

The course is ready to go. Now you need to choose a Mode of Play (i.e. Stroke Play, Match Play, Skins, Best Ball, etc.) and specify rules of play.



To choose a Mode of Play (MOP)

1. Under “Rules”, click the **Change** button.
2. From the Rules screen, click the **Current Mode of Play** drop-down button.
3. Select an MOP from the list.

Notes

- A description of whichever

MOP is highlighted appears in the Description dialog. Rules of play for that MOP are displayed in the Rules of Play dialog.

- The MOP Game Designer allows you to create, modify, add, delete, and clone games. You can even exchange user-created games with friends. For more information on any aspect of Modes of Play, refer to the Help Index (Topic: "Modes of Play").
4. Under Options..., select game-rule options for the upcoming round.
 5. When you're finished, click **OK** to return to the New Round screen.

Note: If you select a Mode of Play that allows mulligans and/or gimmes, you need to determine if you will allow them and, if so, how many and when.

Mulligans and Gimmes

A "mulligan" is a re-hit taken without penalty and, while not officially sanctioned, is sometimes allowed in friendly play. Mulligans don't affect your score, but are recorded on your scorecard.

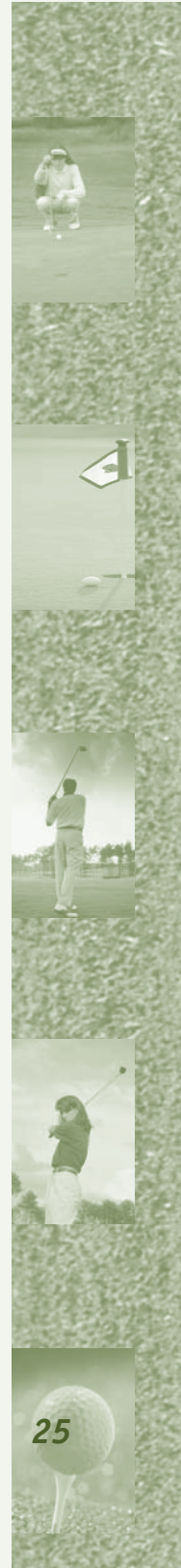
A "gimme," like a mulligan, is often used in friendly play when one player concedes a short putt to another player. If the ball is on the green within a specified distance of the cup, you can finish the hole without "putting out" and add one stroke to your score. This practice is not officially sanctioned in Stroke Play, but is allowed in match play (refer to the Help Index (Topic: "Mode of Play")).

To allow or disallow Mulligans and Gimmes

1. From the New Round screen, under **Rules**, click the Change button.
2. If you allow mulligans, specify how many: 1, 2, 5, 10 or Unlimited. If you allow gimmes, specify how close the ball must be to the hole: 6 inches, 1 foot, 2 feet, or 4 feet.

Notes

- Press **CTRL+Z** while the ball is in midair to take an In-flight mulligan.
- If a mulligan or gimme is taken during a round, the score will not "verify" as valid. Refer to the Help Index (Topic: "Verify Score") for information on verifying a player's score.





Players

Now that you've made your selections from the New Round screen and clicked Next, it's on to the Players in the Game screen, where you designate which player(s) to include in the round.

Designating Players

The Mode of Play you select dictates how many players can participate in the round, but the process of adding a player to the game is always the same:

To add a player to the game

1. Click the **Add Player** button.
2. From the Add Player dialog, click a player, and then click **OK**. The name of the player is now displayed under "Player Name" on the Players in the Game screen.

***Note:** To "record" the new player's round and/or assign a "caddy" to the player (so a recommended club will always be chosen on each shot), click the respective boxes. Refer to the Help Index (Topics: "Recorded Players" and "Recording a Game") for more information on the recording option.*

3. Repeat steps 1 and 2 until all participating players are added to the Player Name list.
4. If you selected a "team" Mode of Play, click **Next** to advance to the Select Teams screen. If you selected a "non-team" Mode of Play, click **Begin Play** to start your round.

To remove a player from the Player Name list

- From the Players in the Game screen, click **Remove**, next to the player's name.

***Note:** You can add or remove a player from a game during play through the Menu pop-up.*

Selecting Teams

If you selected a team-based Mode of Play, you must divide your players into teams before starting the round.

To select teams

1. Point, click, and hold down the left mouse button over a player.
2. Drag and drop the player under a team number.

Note: If you're undecided about which team a particular player should be on, drop that player temporarily into the Transfer section.

3. Repeat steps 1 and 2 until your teams are set.
4. Click **Begin Play** to start your new round.

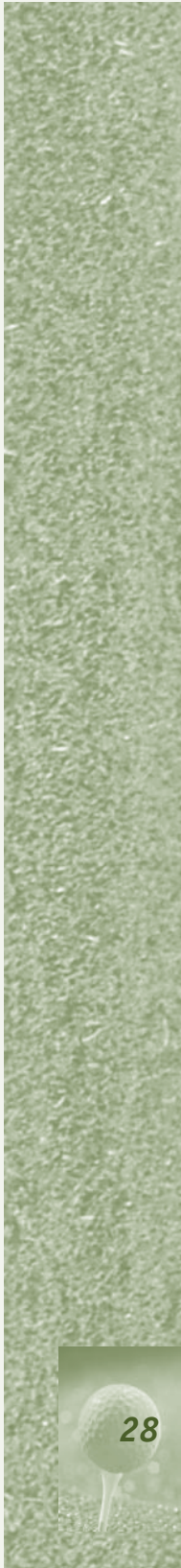
Creating and Editing Players

Links 2001 comes with 14 golfers, each with his/her own settings, but you are free to create or edit players to suit your style.

To create a new player

1. From the Players In the Game screen, click **Add Player**, and then click **Create New Player**.
-or-
1. From the Links Main Screen, click **Players**, and then click **Create Players**.
2. Type a name in the "Create Player" dialog.
3. Choose if the player will be a "computer opponent" or not, and then click **OK**.
4. On the Player screen, four tabbed pages ("Settings", "Appearance", "Clubs", "Club Distances") are displayed. Click **Settings**, and then specify the new player's swing type, skill level, tee position, and grid settings.
5. Click **Appearance** and then the drop-down arrow under "Golfer Animation" to choose a golfer. Specify if the golfer should play right- or left-handed.
Note: Refer to the Help Index (Topic: "Adding a Golfer Animation") for more information.
6. Click **Clubs** and select a maximum of 13 clubs (not including the putter) for the player.
7. Click **Club Distances** and set the distances the player's clubs will hit the ball.
8. Click **Tour Player** to make the player a "tournament" player.
Note: Refer to the Help Index (Topic: "Tournament Settings") for more information.
9. When you finish creating your new player, click **OK**.





To edit a player

1. From the Links Main Screen, click **Players**.
2. From the Players in the Game screen, click **Add Player**.
3. Highlight a player and click **Edit Player**.
4. On the Player screen, click any of the four tabbed pages (Settings, Appearance, Clubs, Club Distances) and edit the player's settings.
5. When you finish editing the player, click **OK** to save the changes.

Note: *This process can also be used to check a player's characteristics, provided you exit without making edits.*

Chapter 6

Using the PowerStroke Swing

The PowerStroke Swing is unique to Links 2001 and simulates the dynamics of an actual golf swing more realistically than any other mouse-based interface. Utilizing clubhead speed, swing path, face angle, and the toe/heel alignment of your club at impact, as well as allowing for both a right- and left-handed swing, it's no surprise that this is the most complex element in the game. For this reason, this chapter is devoted solely to explaining the intricacies of the PowerStroke.

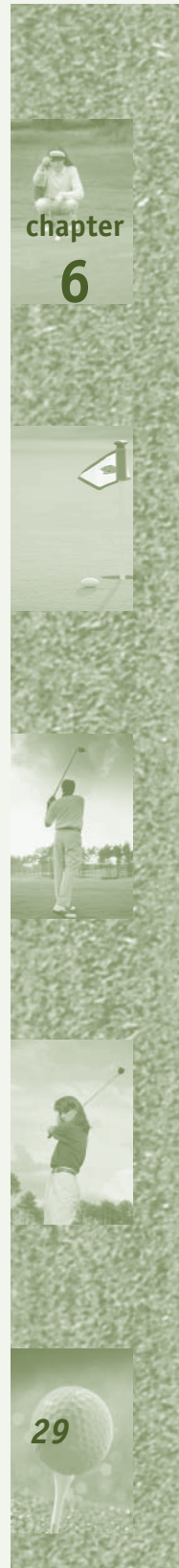
To play using the PowerStroke swing

1. Create a player with a PowerStroke default swing type.
-or-
1. During a round, move the pointer to the bottom of the Main Cam and click **Shot Options**.
2. From the Shot Options menu, click **Swing Options**.
3. From the Swing Options, select **PowerStroke**.

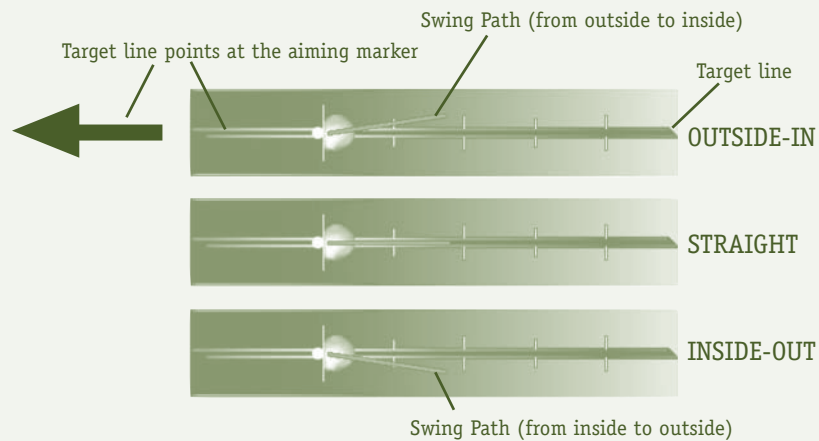
Hitting the Ball

As with an actual golf swing, the PowerStroke swing is affected by four basic factors: clubhead speed, swing path, clubface angle, and toe/heel.

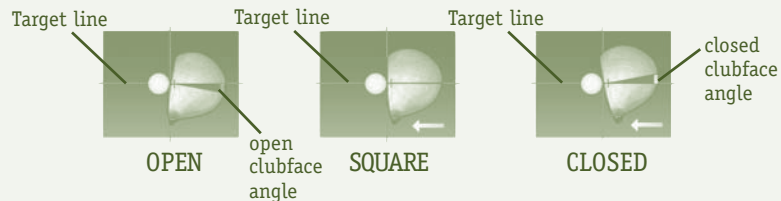
Clubhead speed—The speed of the club when it hits the ball is directly related to the distance the ball travels. For a full PowerStroke swing, the mouse's speed simulates the clubhead's speed.



Swing path—On the PowerStroke gauge, the center line (which passes through the ball) is called the “target line” and is aligned with the Aiming Marker. A straight swing path will move exactly parallel to the target line up to and through impact. Incorrect swing paths are referred to as “inside/out” or “outside/in” and will negatively affect the accuracy of a shot.



Clubface Angle—The angle of the clubface should be “square” to the target line at impact. If it isn’t, the clubface angle is defined as “open” or “closed.”



Toe/Heel—The clubface is divided into three sections: *Sweet Spot* (the center of the clubface), *Heel* (the edge of the clubface where the shaft is attached) and *Toe* (the edge of clubface away from the shaft). *How the clubface makes contact with the ball affects length and accuracy—both in actual golf and when using PowerStroke.*

Sweet Spot—A “sweet” shot produces maximum ball speed with little or no side-spin.



Heel—A heel shot twists the clubhead closed (toward the golfer) on impact, reducing ball speed and pulling the ball to the left. When hitting an iron, it also adds counter-clockwise side-spin, causing the ball to curve left (draw/hook). With a wood, it creates the “gear effect”, adding clockwise side-spin, causing the ball to curve right (fade/slice).

Toe—A toe shot twists the clubhead open (away from the golfer) on impact, pushing the ball to the right. Its effect with irons and woods is the opposite of heel shots.

Note: A hook is a severe draw. A slice is a severe fade.

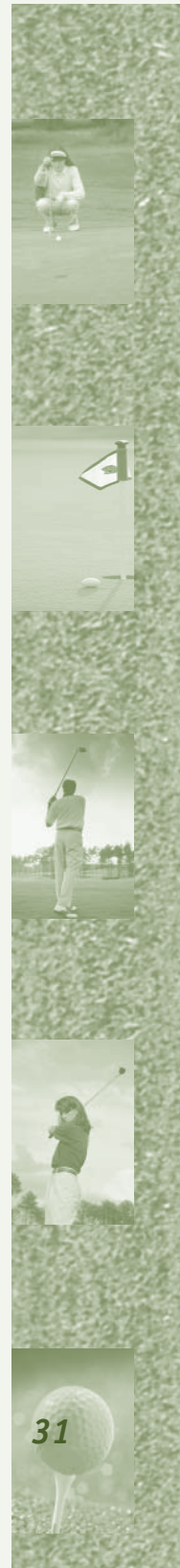
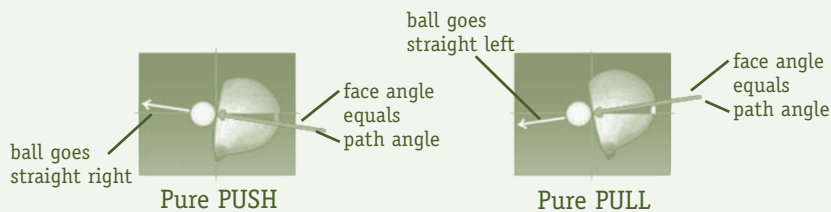
Draw/Hook and Fade/Slice

With some exceptions, the goal of a golf swing is to hit the ball straight. A common cause of hooks and slices is side-spin, which occurs when the clubface angle and the swing path angle are not aligned (see “Clubface Angle,” on previous page). The degree of side-spin increases as the difference between these two angles, called the *net angle*, increases.

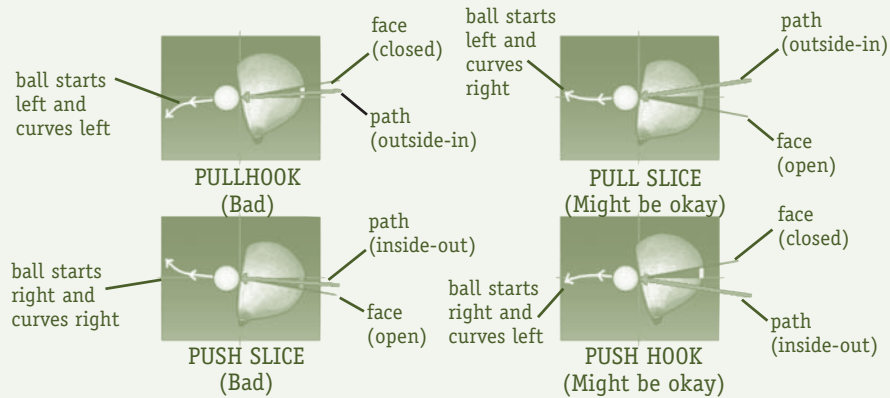
Ball speed also contributes to the severity of a hook or slice, with higher forward velocity creating more curvature for a given spin rate. This applies not only to side-spin, but to backspin as well. Every normally-struck shot has backspin while in midair. A higher velocity shot or a shot into a headwind tends to fly higher, stall more, and have a greater hook or slice.

Push and Pull

A pure “push” is a shot that travels straight right of the target line with no curvature (side-spin). A pure “pull” travels straight left. This occurs when the clubface angle and swing path angle are exactly aligned, producing a net angle of zero. The following diagrams give examples of a pure push and a pure pull:



A push or pull may also be hit with side spin. This may be disastrous or advantageous, depending on the combination. For example, a pull-hook is usually costly, since the shot would start left of the target line and curve further left. A pull-slice, however, could be an advantageous shot, since it would start left and curve back to the right. The following diagrams give examples of push and pull shots with side-spin.



The PowerStroke Swing

Now that you're familiar with the basic elements of the PowerStroke (and actual golf) swing, you're ready to step up to the mouse. There are three ways to use the PowerStroke swing: Full Swing, Chipping/Putting and Sand Shots:

The Full Swing

A full PowerStroke swing will allow you to hit the ball just as hard and long as in the real-life game. The keys to learning how to do this are controlling your mouse speed, tempo, and accuracy.

Mouse Speed and Tempo—For a full swing, the faster you move the mouse, the more clubhead speed you generate, unless you “over-speed” and the mouse ball slides rather than rolls. Poor tempo—such as a fast back swing with a too-quick transition to the downswing—is the most common cause, though a slippery mouse pad or dirty mouse ball and/or rollers can also cause over-speeding. It is also possible to swing so fast that the mouse cannot correctly report the movement data.

Note: Practicing will help you find a comfortable tempo that produces consistently long drives without over-speeding. Remember, high clubhead speed does not necessarily result in high ball speed—a square hit is just as important.

Accuracy—As in the real game, accuracy is more important than speed, and to hit straight, you must control your swing path, clubface angle, and toe/heel. You also need to hit the ball specific distances, which require a smooth, consistent tempo and plenty of practice.

For more instructions, refer to the Help Index (Topic: “PowerStroke Lessons”).

Note: All instructions on using the PowerStroke swing are for a right-handed swing. For a left-handed swing, reverse the direction and sequences.

To make a full shot using the PowerStroke swing

1. Click the Club icon at the bottom of the Main Cam to display the PowerStroke swing gauge. The cursor is constrained within the swing gauge.

Note: To exit without swinging, press **ESC**.

2. Click the left mouse button when you’re ready to swing.

-or-

2. Click and hold down the left mouse button.
3. Slide the mouse to the right. This is the backswing.
4. When the club reaches the top of the back swing, stop, and then slide the mouse to the left to start the downswing.

Note: Use a smooth, even tempo for this portion of the swing.

5. During the downswing, accelerate through to the point of impact, being careful not to over-swing.



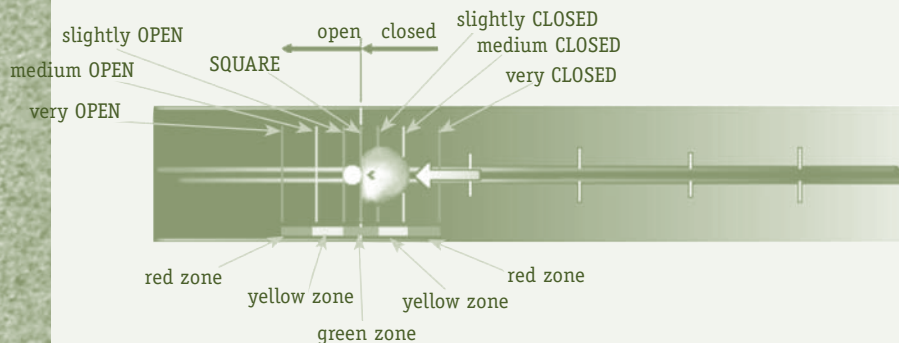
Note: The length of the backswing does not affect the distance a ball is hit with a full swing, but does with chips and putts.

6. At the moment the clubface strikes the ball, click—or release, if you held down—the left mouse button. This is called the *snap point* and is marked by a vertical line.

Note: “Snap point” refers to the wrist snap in an actual golf swing. For an explanation of snap point see page X.

8. If the vertical snap point line is left of the ball on the swing meter, the clubface was open; to the right, it was closed. If the line is green, the clubface angle was slightly off, yellow means moderately off, and red means extremely off.

Note: A closed clubface is caused by clicking (or releasing) too soon—the clubface closed by the time it reaches the ball. An open clubface is caused by clicking too late.



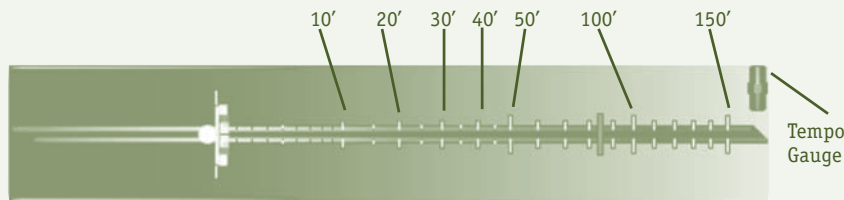
Chipping and Putting

The chipping/putting PowerStroke swing, like the full swing, bases the clubhead speed on the speed of the mouse. Unlike the full swing, however, the length of your back swing plays an important role. To master the PowerStroke short game, you must understand the relationship of mouse speed to backswing, as well as learning to read the swing gauge and the tempo gauge.



The Chipping/Putting Swing Gauge

Unlike the full swing gauge, the chipping/putting swing gauge has graduated markings to assist you in judging distances (see the following diagram).



Chipping/Putting Meter

Note: When putting, these markings represent the distance the ball will travel (in feet) on normal, level greens. When chipping, the markings represent distances relative to the club being used. Practice chipping to become familiar with the distances of different clubs.

To achieve a desired distance, you must bring the clubhead back to the appropriate mark and then hit the ball at the proper speed. To help gauge this speed, the chipping/putting swing gauge includes a separate indicator called the *tempo gauge*.

Tempo Gauge

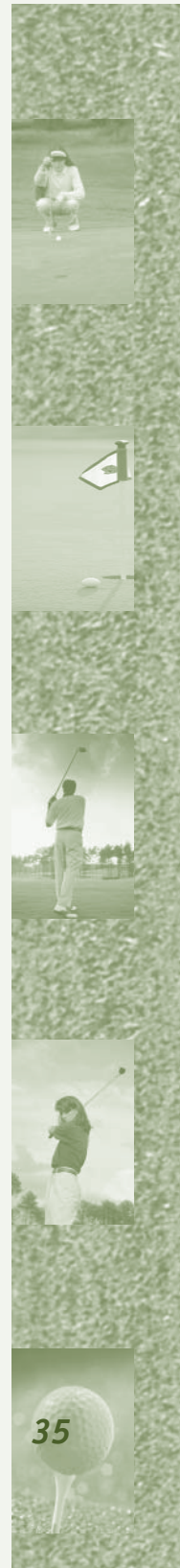
When you make a PowerStroke chip or putt, the tempo gauge shows your mouse speed (at impact) relative to the optimum speed for the length of back swing. The green area in the middle is the proper speed zone. The orange area at the top is too fast and the red area at the bottom is too slow.

To chip or putt using the PowerStroke swing

1. Choose the marking on the swing gauge of the desired distance.
2. Move the clubhead slightly past the mark during the backswing.

Note: A light red line, indicating the length of the backswing, is set when the clubhead stops moving back. If you move it further back after stopping, the mark will already be set.

3. Make a smooth swing that registers in the green zone on the tempo gauge.



Sand Shots

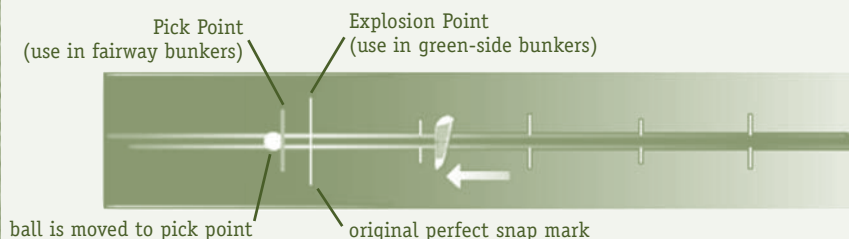
There are two basic ways to hit shots out of a bunker:

Explosion Shot— Using a sand wedge or other lofted club, hit 1-2 inches behind the ball with moderately fast swing. This shot is often used out of green-side bunkers, since the ball comes out with less velocity and lands softly with a lot of backspin.

Pick Shot—Using the usual club for the distance needed, pick the ball cleanly off the sand. This shot is used in fairway bunkers and is a difficult shot to execute because of the required precision.

When attempting a PowerStroke shot from the sand, the full swing gauge is modified slightly to represent both the “explosion” and “pick” snap points (see the following diagram). The explosion point is the original perfect snap point and represents a spot 1.5 inches behind the ball. The pick point is beyond the explosion point and represents the front edge of the ball.

Note: The snap point is where you strike the sand and does not affect the clubface angle.



Full Swing Meter - Modified for Sand Shot

To make an “explosion” sand shot

1. Select a sand wedge.
2. Click on the explosion snap point.

Note: Click too early and you will take too much sand, causing the shot to be too short. Click too late and you won't take enough sand and the ball will travel too far.

To make a “pick” sand shot

1. Select the usual club for the distance to the green.
2. Click on the pick snap point.

Note: Click too early and you will take too much sand, causing the shot to be too short. Click too late and you won't take enough sand and the ball will travel too far.

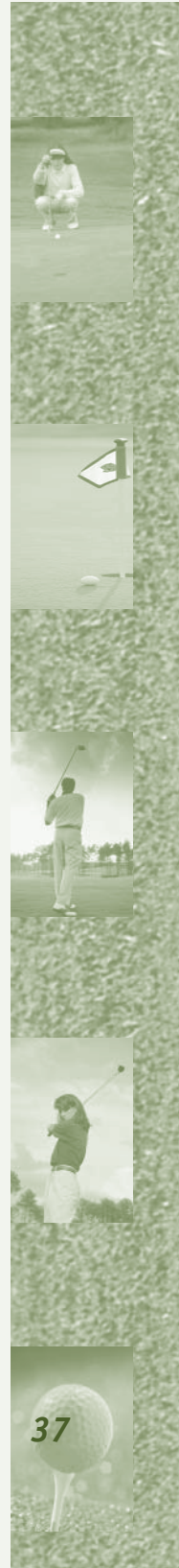


Adjusting PowerStroke Sensitivity

“Clubhead Speed” is shown in the bottom-left corner of the PowerStroke display. The “1 Wood” (driver) should reach a clubhead speed of over 100 mph. If it doesn’t, adjust the PowerStroke sensitivity.

To adjust PowerStroke sensitivity

1. Move the pointer to the bottom of the Main Cam and click **Swing Options**.
2. From the Swing Options menu, click **Preferences**.
3. At the bottom of the dialog, click and drag the PowerStroke Sensitivity slider to the right to increase your clubhead speed or to the left to decrease it.



Chapter 7

Online Play

With Links, you can play a game with your friends via a modem or network connection, through the MSN Gaming Zone, or through direct connection. Both players must have the same version of Links installed on their machines and, for modem play, we don't recommend anything slower than a 28,800-bps connection.

To play online

- From the Links Main Screen, click **Online Play**.
- or-
- Go to the MSN Gaming Zone on your Web browser.

Notes

- To play on the MSN Gaming Zone, you need either Internet Explorer (version 3.02 or later) or Netscape Navigator (version 4.0 or later).
- From the MSN Gaming Zone you can also participate in the Microsoft-sponsored LS Tour, or select Direct Connections to enable network, direct connect, and Internet play. Refer to each of these topics in the Help Index for more details.
- Links 2001 requires Microsoft® DirectX® 7.0a or higher to play online or network games.
- Since Windows NT 4.0 supports only Direct X 3.0, users will not be able to play online or network games. Microsoft® Windows Professional® 2000 fully supports network games.

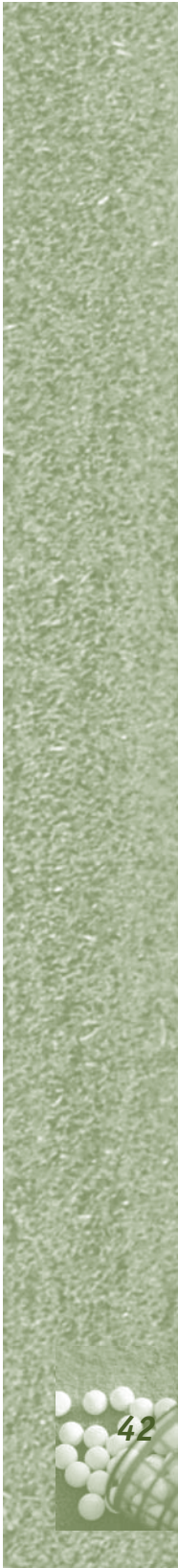
MSN Gaming Zone

The MSN Gaming Zone is a *free* gaming service that allows you to play fun, exciting, challenging games on the Internet. At the Zone, you can compete against some of the world's best players or just meet new people over a casual game. The Zone is the place to go to get the latest game tips and news about Links. And after you've birdied, parred, and bogeyed your way through Links, wander around the many other Zone game rooms. Try out some of the free card and board favorites, such as Hearts, Spades, and Backgammon. They're easy to play and have ranking systems to chart your rise toward stardom.

Refer to the Help Index (Topics: "Online Play" and "MSN Gaming Zone") for more information.



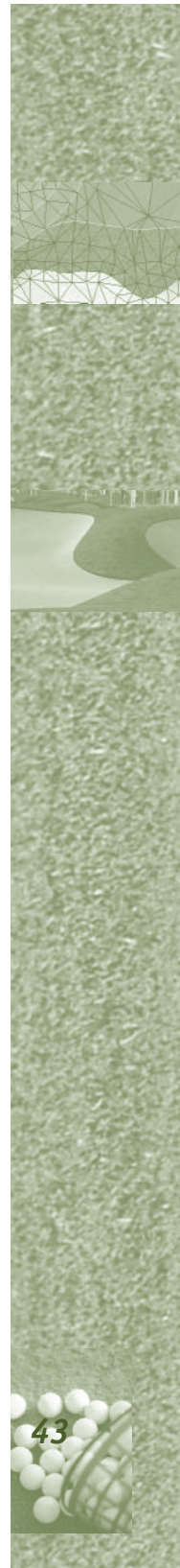
**THE ARNOLD
PALMER COURSE
DESIGNER**

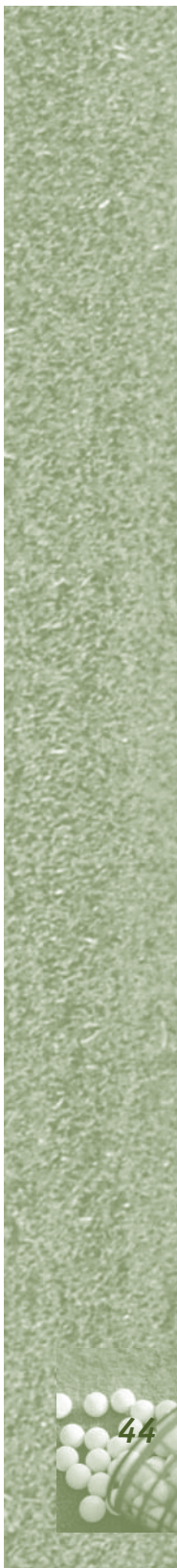


The Arnold Palmer Course Designer

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Getting Started

Installing the Course Designer

The Arnold Palmer Course Designer requires the following minimum system configuration:

- Pentium II with a 300 CPU
- 128 MB RAM
- 8X CD-ROM drive
- 16 MB 3D graphics accelerator
- Sound card
- Microsoft 3-button mouse (or compatible pointing device)

To install the Course Designer

1. If you have the Auto-install feature, insert the CD in your CD-ROM drive and follow the instructions on the screen.
-or-
1. Insert the Arnold Palmer Course Designer CD in your CD-ROM drive.
2. Click **Start**.
3. Click **Run** from the Start menu.
4. Type: D:\SETUP, and then press **ENTER**.
***Note** D: designates the drive letter of your CD-ROM drive.*
5. Click **OK**.
6. The setup window appears to guide you through the installation process.

***Note:** Open the icon.pdf file on the Links 2001 CD 4 to print out convenient reference pages with icons, descriptions and a list of shortcut keys.*

Starting the Course Designer

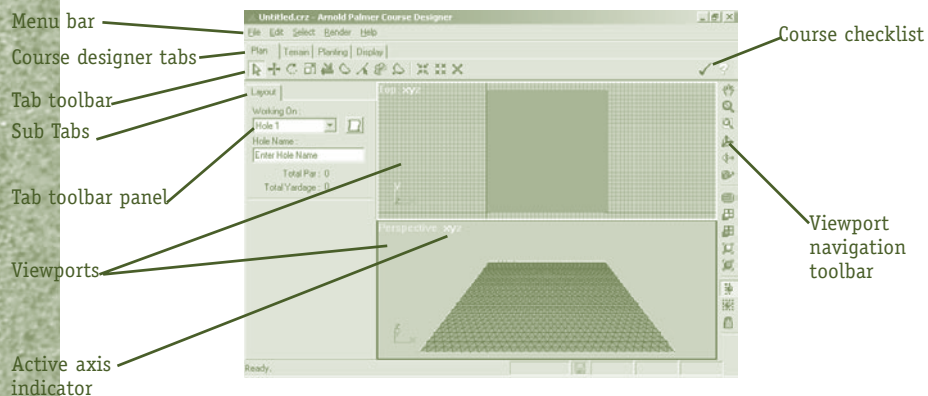
During installation, Links creates its own Program group on your Start menu.

To start Links

1. Click **Start** (or go to Step 4 if you made a desktop shortcut during installation).
2. Point to **Programs**.
3. Point to **Microsoft Games**.
4. Click **Arnold Palmer Course Designer**.

The Course Designer Main Screen

Start the program to bring up the Course Designer Main Screen. Each component of the Main Screen is described below:



Viewports

The two large windows are the "Top Viewport" (the overhead layout) and the "Perspective Viewport" (the three-dimensional view). Other viewports can be selected, but these two are the most useful. All course design is done within the viewports. See Chapter 9—"Display Options" for more information.

Viewport Label & Active Axis Indicator

Each viewport's name is displayed in its upper-left corner. Next to the name is "x y z". These correspond to the axis of each of the three dimensions: "x" = left/right; "y" = front/back; and "z" = up/down. Whichever axis or axes are active will be highlighted. There are shortcut keys that allow you to quickly switch the active axes. Refer to Chapter 14—"Keyboard Shortcuts."



Viewport Navigation Toolbar

The vertical set of icon buttons on the right side of the screen is the Viewport Navigation toolbar. For instructions on using the Viewport Navigation toolbar functions, see chapter 9—“Display Options.”

Course Designer Tabs

In the upper-left corner of the screen, there are four Course Designer Tabs: Plan, Terrain, Planting, and Display. The tools you use to design your course are grouped under these headings:

Plan—Create a “blueprint” of your course.

Terrain—Make the blueprint three-dimensional and fine-tune the course components.

Planting—Fill in the course with trees, grass, rocks, etc. Add galleries, structures and sound effects.

Display—Select options related to the viewports.

Tab Toolbars

Each of the four Course Designer tabs has its own toolbar containing a specialized set of icon buttons, which appear when you select the corresponding tab. Descriptions of these icon buttons and their functions can be found in the respective Course Designer tab chapters (9-12).

Course Checklist

Click the “checkmark” icon in the upper-right corner to view a convenient checklist of required steps, which will track your progress through the course design process. The instructions in subsequent chapters follow the sequence of the Course Checklist.

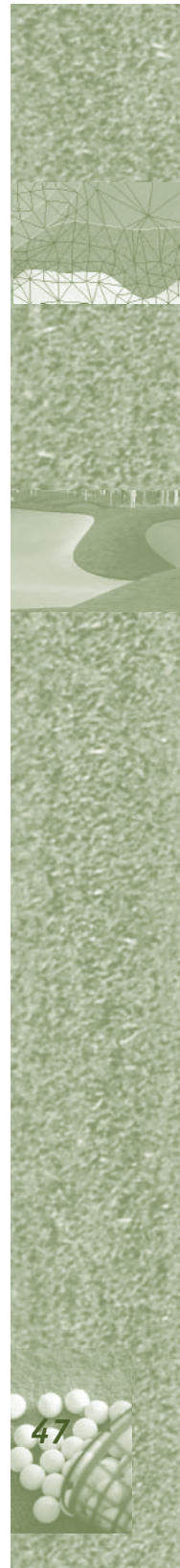
Help Options

The Arnold Palmer Course Designer is a complex program with many advanced features. This manual covers the basics of creating a course and refers you to Help for additional information.



To go to the Help screen

- Click **Help** or press F1.



Chapter 9

Display Options

The viewports are the main windows in the Course Designer in which you do all the course work. There are seven viewports to choose from:

Top Viewport—A directly overhead view.

Perspective Viewport—An angled, elevated view, offering a view of the course's contours.

Left Viewport—A view from the left (ground level).

Right Viewport—A view from the right (ground level).

Front Viewport—A view from the front (ground level).

Back Viewport—A view from the back (ground level).

Bottom Viewport—A view from “under” the course, looking up.

Viewport Layouts

There are a number of layouts you can select from to arrange the various viewports.

To select a viewport layout

1. Click the **Display** tab.
2. Click the **Layout** icon button.
3. Select the layout you prefer.

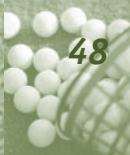
Resizing Viewports

Viewports can be resized by clicking and dragging the borders between them.

Viewport Navigation Toolbar

The vertical set of icon buttons on the right side of the screen is called the Viewport Navigation Toolbar. The top eight icon buttons (Pan, Zoom, Box Zoom All, Navigate, Line of Sight, Tape Measure, Toggle Full Screen, Fit Course All, Fit Selection All, Fit Course, and Fit Selection) all represent different functions you can use to navigate within the viewports.

Note: Move the pointer over any icon button to view its name.



To pan in a viewport

1. Click the **Pan** icon button from the Viewport Navigation toolbar.
2. In a viewport, click and hold down the left mouse button.
3. Move the mouse to move the display area.
***Note:** Hold down the SHIFT key while moving the mouse to increase the speed.*
4. When finished, release the left mouse button.



***Note:** Hold down the CTRL key while panning to rotate the view from a fixed position.*

To zoom in a viewport

1. Click the Zoom icon button from the Viewport Navigation toolbar.
2. In a viewport, click and hold down the left mouse button.
3. Move the mouse forward to zoom in (magnify); move the mouse backward to zoom out.
***Note:** Hold down the SHIFT key while moving the mouse to increase the speed.*
4. When finished, release the left mouse button.



To Box Zoom All in a viewport

1. Click the **Box Zoom All** icon button from the Viewport Navigation toolbar.
2. In a viewport, hold down the left mouse button and drag the mouse to create a box.
3. When the box is at the size you want, release the left mouse button. All the viewports will zoom in and display the area within the box.



To use the navigate function

1. Click the **Navigate** icon button from the Viewport Navigation toolbar.
***Note:** The Perspective Viewpoint must be displayed.*
2. In the Perspective Viewport, click and hold down the left mouse button.
3. Move the mouse to rotate the three-dimensional view.
4. When finished, release the left mouse button.



To use the line of sight function

1. Click the **Line of Sight** icon button from the Viewport Navigation toolbar.



Note: *The Perspective Viewport must be displayed.*

2. In the Top Viewport, click, hold, and drag the mouse in the direction you want to face.
3. When you release the left mouse button, the Perspective Viewport will redraw in that direction.

To Tape Measure in a viewport

1. Click the **Tape Measure** icon button from the Viewport Navigation toolbar.
2. In the Top Viewport, click where you want to measure from.
3. Hold down the left mouse button and drag to display a measurement from the start point.
4. When finished, release the left mouse button.

**To Toggle Full Screen in a viewport**

1. Click the **Toggle Full Screen** icon button from the Viewport Navigation toolbar. The active viewport will take up the entire screen.
2. Click the **Toggle Full Screen** icon button again to reset the viewport layout.



Note: *To make a viewport active, right click it.*

To Fit Course All in a viewport

- Click the **Fit Course All** icon button from the Viewport Navigation toolbar. The entire course will be displayed in all viewports.

**To Fit Selection All in a viewport**

1. In a viewport, make a selection.
2. Click the **Fit Selection All** icon button from the Viewport Navigation toolbar. All the viewports will display the selected area.



To fit the course in a viewport

- Click the **Fit Course** icon button from the Viewport Navigation toolbar. The entire course will be displayed in the active viewport.



Note: To make a viewport active, right click it.

To fit a selection in a viewport

- In a viewport, make a selection.
- Click the **Fit Selection** icon button from the Viewport Navigation toolbar. The active viewport will display the selected area.



Note: To make a viewport active, right click it.

The three lowest icon buttons (Crossing, Containing, and Lock Selection) represent different functions you can use to select within the viewports:

Note: Selections are dependent on which Course Design tab or sub-tab is active.

To make a Crossing Selection in a viewport

- Click the **Crossing** icon button from the Viewport Navigation toolbar.
- Click in a viewport, hold down and drag to create a box.
- Release the left mouse button to select. All objects the box crosses are selected.



To make a Containing Selection in a viewport

- Click the **Containing** icon button from the Viewport Navigation toolbar.
- Click in a viewport, hold down and drag to create a box.
- Release the left mouse button to select. All objects entirely contained within the box are selected.



To lock a selection in a viewport

- In a viewport, make a selection.
- Click the **Lock Selection** icon button from the Viewport Navigation toolbar. No interaction will be allowed with any area of the course other than the one currently selected.



Chapter 10

Planning a Hole

This is the first step to creating your own golf course. The “plan” phase of the design is where you create a “blueprint” of the course, hole-by-hole. In later phases you modify the terrain and plant objects and sounds, but this is where the foundation of the course is built.

Creating a New Course

Before you can design the first hole—just as if you were designing an actual course—you must have a piece of terrain to work with. The Course Designer provides a default terrain at the standard size of 1000x1000 yards, but you can create another if you choose.

To create a new course terrain

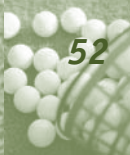
1. Click the **File** menu, and then click **New Course**.
2. Select a **Terrain Type**.
3. Enter the new dimensions.
4. Click **Create** to create the new course terrain.

Creating Hole #1

This section is a walkthrough of how to build a basic golf hole. In the Course Designer, a hole consists of two basic elements: shapes and the hole path.

Shapes

All the components that make up a golf hole (i.e. tee boxes, fairways, bunkers, greens) are referred to as “shapes.” Unless otherwise specified, generic shapes are added to the hole, based on how you define the hole path (see following). You can modify these generic shapes and/or create your own. Refer to Help (Topic: “Create Shapes”) for information and instructions on how to create your own shapes.



Define Hole Path



The hole path is a line that starts in the center of the back tee box, extends to a midpoint in the fairway, and ends in the center of the green. This line can be straight, angled or severely angled (doglegs). Defining the hole path is the first step when creating a hole.

To define a hole path

1. Click the **Plan** tab.
2. Click the **Define Hole Path** icon button from the tab toolbar.
3. In the tab toolbar panel, select **Hole 1** from the Working On drop-down menu.
4. Select **Par 4** from the Define Hole dialog.

Note: Refer to *Help (Topic: "Define Hole Path")* for more information on the Advanced Settings.

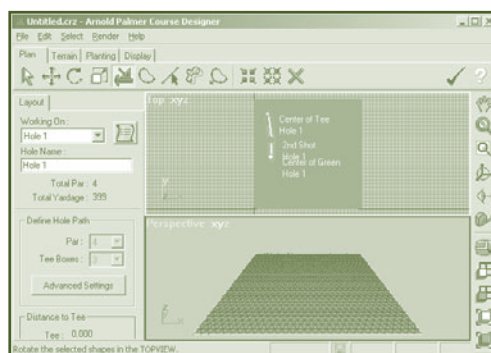
5. Select the number of tee boxes for the hole.

Note: The typical minimum is three: *Pro, Amateur, and Ladies*.

6. In the Top Viewport, click where you want the back tee box (tee-off point) of Hole #1 to be.

Note: To adjust the Top Viewport position, refer to "Viewport Navigation Toolbar," page 47.

7. Click to set a lay-up point (approx. 250 yards) from the tee-off point. A dashed line connects the pointer and the back tee box. The actual (and recommended) distance between the two points is displayed.
8. Click again where you want the center of the green to be.



Customizing Hole #1

Believe it or not, you've created your first golf hole. Its layout is based on the three points of your hole path and the Course Designer has automatically assigned a hole boundary, represented by a red outline. The shapes (i.e. fairway, bunkers, green) have been "auto-created" and are generic, both in appearance and location. Now it's time to start customizing. When you click the **Plan** tab, the Plan tab toolbar is displayed, which contains the following icon buttons (from left to right):

Note: The *Select, Move, Rotate, Scale, and Delete* icon buttons appear on the toolbar of every Course Design tab.



Select Shape—Click a shape to highlight it.

Move Shape—Drag a shape into a new position.

Rotate Shape—Drag the outline of a shape to rotate it.

Scale Shape—Drag the outline of a shape to increase/decrease its size.

Define Hole Path (see page 53.)

Create Shape—Create a hand-made shape.

Adjust Shape—Modify an existing shape.

Copy Shape—Create a duplicate of an existing shape.

Insert Shape—The final step after a shape has been modified and positioned.

Group Shape—Add a shape to a hole.

Ungroup Shape—Disassociate a shape from a hole.

Delete Shape—Delete a shape from the hole.

Note: The following instructions specify what should be displayed in the viewports. This may require you to navigate within the viewports. For instructions, see page 48—"Viewport Navigation Toolbar."

Moving a Shape

To show how to move a shape, we will reposition the tee boxes.



To move a shape

1. Position the Top Viewport so the tee boxes and first part of the fairway are displayed.
2. Click the **Plan** tab.

3. Click the **Move Shape** icon button from the tab toolbar.
4. In the Top Viewport, click and hold down the left mouse button on the outline of the forward tee box.
5. Drag the forward tee box to a new position and release the left mouse button.

Note: Tee boxes are not usually laid out in a straight line. Forward tee boxes often provide a much more open angle to the green. Middle tee boxes are usually larger than forward or back tee boxes, since they are used by the majority of golfers.

Rotating a Shape

To show how to rotate a shape, we will rotate the green.



To rotate a shape

1. Position the Top Viewport so the green is displayed.
2. Click the **Plan** tab.
3. Click the **Rotate Shape** icon button from the tab toolbar.
4. In the Top Viewport, move the pointer onto the outline of the green.
5. Click and hold down the left mouse button and move the mouse to rotate the shape.

Note: Move right to rotate counter-clockwise and left to rotate clockwise.

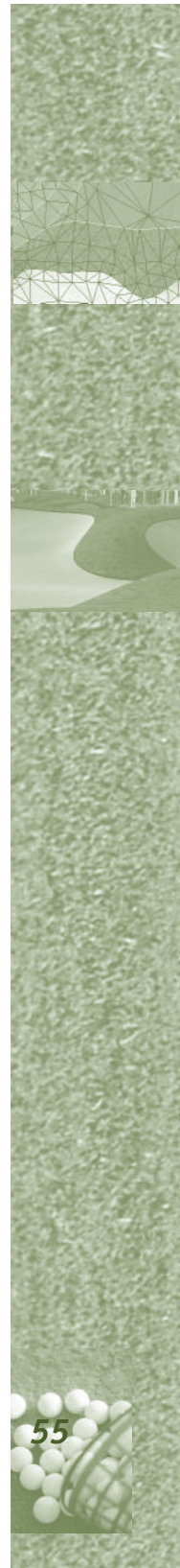
Scaling a Shape

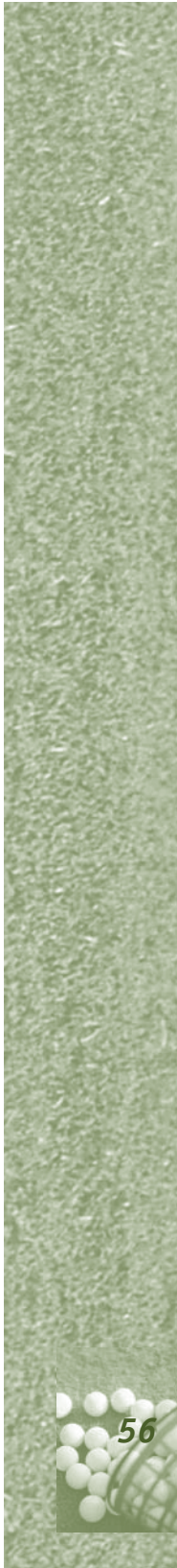
To show how to scale a shape, we will decrease the size of a bunker.



To scale a shape

1. Position the Top Viewport so a bunker is displayed.
2. Click the **Plan** tab.
3. Click the **Scale Shape** icon button from the tab toolbar.
4. In the Top Viewport, click the bunker outline.
5. Hold down the left mouse button and move the mouse left and right to scale the object.
6. When the object is properly scaled, release the left mouse button.





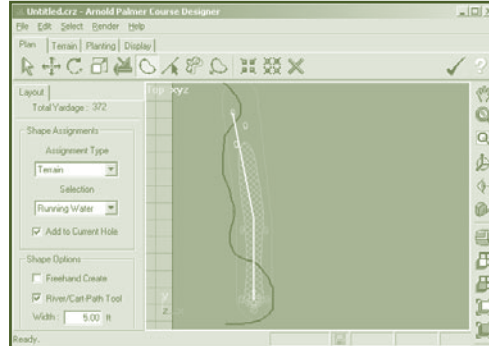
Creating a Shape

Shapes are either “auto-created,” or made by hand (refer to Help, Topic: “Create Shapes”). To demonstrate one of the handmade methods, we will create a river.



To create a river

1. Position the Top Viewport so the entire hole layout is displayed.
2. Click the **Plan** tab.
3. Click the **Create Shape** icon button from the tab toolbar.
4. From the toolbar panel, from the Shape Assignments dialog, select **Terrain** under Assignment Type.
5. Select **Running Water** under Selection.
***Note:** To create a cartpath, select **Concrete** or **Asphalt** under Selection.*
6. Select the **Add to Current Hole** checkbox.
***Note:** If this checkbox isn't selected, the shape will not be added to the hole. If this happens, see page 58—“Adding a Shape to a Hole.”*
7. Select the **River/Cart Path Tool** checkbox under “Shape Options.”
8. Select a width for the river (in feet).
9. Position the Error Margin slider.
***Note:** This determines how closely the Course Designer reproduces your pointer movements. For the organic edge of a riverbank, move the slider to the left; for the man-made line of a cart path, move the slider to the right.*
10. In the Top Viewport, click where you want the river to begin.
11. Hold down the left mouse button and drag to draw the river's line.
12. When finished, release the left mouse button.



Adjusting a Shape

All shapes can be adjusted, but this tool is especially useful when modifying the auto-created generic shapes. To show how to adjust a shape, we will reshape a bunker.

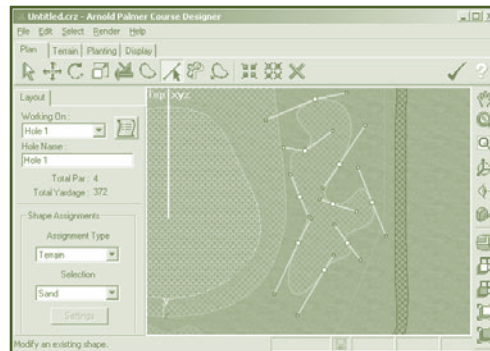


To adjust a shape

1. Position the Top Viewport so a bunker is displayed.
2. Click the **Plan** tab.
3. Click the **Adjust Shape** icon button from the tab toolbar.
4. In the Top Viewport, click the outline of the bunker.

Note: Selecting a shape will display white “control points” with orange “rotating arms.”

5. Click and drag a center control point (see note above) to move it.



6. Click and drag an end control point to pivot.
7. Hold down the **SHIFT** key and click and drag an end control point to move one arm.

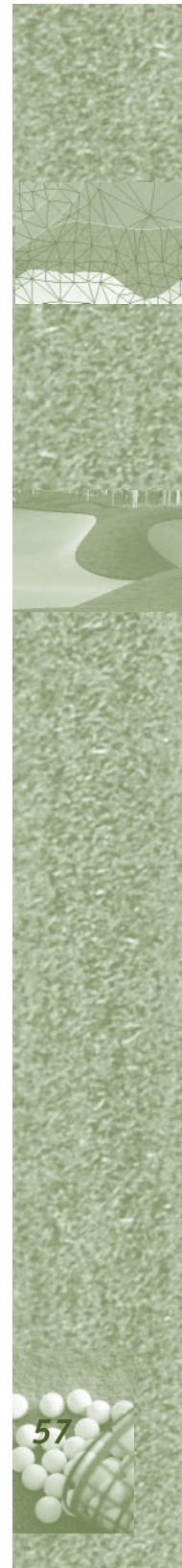
Copying a Shape

To show how to copy a shape, we will copy a bunker (and then delete it—see following).



To copy a shape

1. Position the Top Viewport so a bunker is displayed.
2. Click the **Plan** tab.
3. Click the **Copy Shape** icon button from the tab toolbar.
4. In the Top Viewport, click the outline of the bunker.
5. Click the **Move Shape** icon button from the tab toolbar.
6. Click and drag the copied bunker off the original bunker and position it.



Grouping a Shape to a Hole

If you create or modify a shape and forget to select the Add to Current Hole checkbox, or if you add a shape later in the process, you must add the shape to the hole.



To group a shape to the hole

1. Position the Top Viewport so the shape is displayed.
2. Click the **Plan** tab.
3. Select **Hole 1** (or the hole you're working on) in the Working On box.
4. In a viewport, click the shape you want to add.
5. Click the **Group** icon button from the tab toolbar.

Note: To disassociate a shape from a hole, click the Ungroup icon button. Refer to Help (Topic: "Ungroup") for more information.

Deleting a Shape

To show how to delete a shape, we will delete the copied bunker (see preceding).



To delete a shape

1. Position the Top Viewport so the copied bunker is displayed.
2. Click the **Plan** tab.
3. Click the **Select** icon button from the tab toolbar.
4. In the Top Viewport, click the bunker to delete it.
5. Click the **Delete Shape** icon button from the tab toolbar.

Note: To undo the delete, select **Undo** from the Edit menu.

Inserting a Shape

Until you “insert” a shape onto the terrain, it is only a pattern, and not yet a permanent part of the course. Shape-editing should be finalized before shapes are inserted.

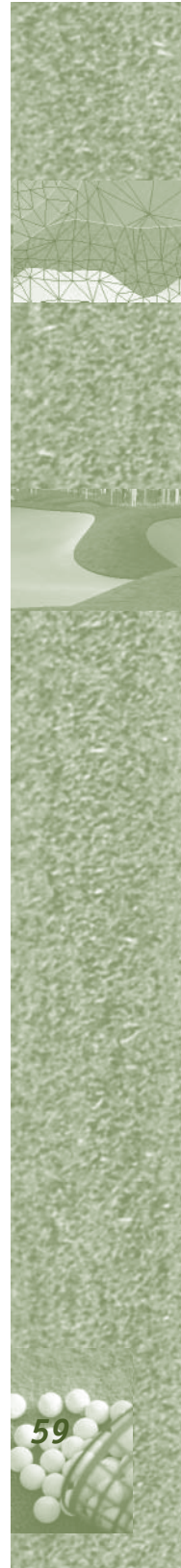


To insert a shape

1. Position the Top Viewport so the shape you want to insert is displayed.
2. Click the **Plan** tab.
3. Click the **Insert Shapes** icon button from the tab toolbar.
4. In the Top Viewport, click the red Hole Boundary line.
5. The Add Pin and Tee? dialog appears. Click **Yes**.

Note: This will plant a tee position in the center of one tee box and a pin position in the center of the green. See chapter 12—“Planting” for more information on planting tees and pins.

6. All the shapes associated with Hole #1 are inserted into the terrain.



Chapter 11

Terrain

You have now created a hole. It's completely flat and empty, but it's playable. In this chapter, we introduce you to the most complex—and essential—element of course design: refining the terrain. Don't expect to be able to master this section without a lot of practice. But, with patience and perseverance, you will be able to create your own Links-quality courses. The Terrain functions are quite advanced and, since this chapter is a primer, we will provide only a brief walkthrough. Refer to Help for thoroughly detailed instructions on any and all Terrain tools and functions.

Refining the Course Terrain

To refine course terrain, click the **Terrain** tab. There are four sub-tabs under Terrain: Surface, Vertex, Face, and Edge. Each sub-tab's toolbar has unique icon buttons in addition to several that are common to all: Select, Move, Rotate, Scale, and Delete (see page 54—"Customizing Hole #1").

Terrain Selection Icon Buttons

When you click the Surface, Vertex or Face tabs, the following icon buttons appear in their toolbar panels:

Box Select—In any viewport, click and hold down the left mouse button, and then drag to create and size a box. All terrain features within the box are selected.



Region Select— In any viewport, click any shape to select all terrain features within it.

The following icon button also appears in the Surface and Face tab toolbar panels:

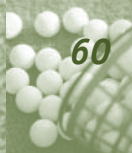
Drag Select—In any viewport, click and drag to select.



For Vertex, the following icon button appears in the toolbar panel in place of Drag Select.:



Interior Region Select—Click a terrain type (i.e. green, fairway) and select all terrain features within that type, except those that border a different terrain type.



Surface

Click this sub-tab to reveal the five standard icon buttons (Select, Move, Rotate, Scale and Delete), as well as four new icon buttons: Terrain Builder, Terrain Painter, Extrude and Flatten.



“Terrain Builder” and “Terrain Painter” are unique to the Surface sub-tab. The Terrain Builder is especially useful in creating interesting topography for large sections or even contouring the entire course.

Terrain Builder—A contouring tool especially useful in creating interesting topography for large sections or even contouring the entire course.



Terrain Painter—A contouring tool useful for creating specific hills or mounds. Refer to Help (Topic: “Terrain Painter”) for instructions and more information.

Extrude—Change the elevation of a shape relative to the surrounding terrain.



Flatten—Remove the variations in elevation from a selected area.

Contouring the Course

While it may be interesting to design your own topography, the true challenge of course design is how to best use existing landscapes. By using the Terrain Builder, you can select from randomly created topographies until you find one suitable for the type of course you want to create.

To contour a course

1. Click the **Terrain** tab.
2. Click the **Surface** sub-tab.
3. Click the **Terrain Builder** icon button from the tab toolbar.
4. Click **Select All** from the Select menu.
5. Four sliders (Hills, Height, Detail, Smoothness) appear in the toolbar panel.
6. Click and drag the **Hills** slider to set the distance(s) between hills.

7. Click and drag the **Height** slider to set the height of hills.
8. Click and drag the **Detail** slider to set the number of hills.
9. Click and drag the **Smoothness** slider to set the smoothness of the resulting terrain.
10. Click **Add to Selection** to view changes. Experiment with the settings until you create a suitable terrain for your course.

Note: To start over, click the Flatten icon button from the tab toolbar.

Vertex

The terrain of the course is a mesh of thousands of triangles, comprised of *vertices* (dots), and *edges* (lines that connect the dots). Generally speaking, the more vertices, the greater the detail (and the more realistic the terrain). Conversely, fewer vertices result in faster redraws and better game performance. You determine the balance between detail and performance. The process begins when you click the Vertex sub-tab. Doing so will bring up the Vertex sub-tab toolbar:



In addition to the five standard functions (Select, Move, Rotate, Scale and Delete), there are the five following functions:



Tilt Selection—Add slope to terrain by tilting selected vertices.

Add—Add vertices to create a higher level of detail.



Simplify Selection—Remove unnecessary vertices to improve redraw speed and game performance.

Flatten Selection—Level the vertices in a selected area.



Nondestructive Delete Selection—Remove a selected vertex without removing the associated terrain (as opposed to Delete Selection, which removes a selected vertex along with its associated terrain, leaving a void in the course that must be filled with new faces).

Contouring a Bunker

Currently, all the shapes on your Hole #1 are flat and at the same level. Using the Vertex function, however, you can add depth and definition to the bunkers, green, etc.

To contour a bunker

1. Position the Top Viewport so the bunker is displayed close up.
2. Click the **Terrain** tab.
3. Click the **Vertex** sub-tab.
4. Click the **Add** icon button from the tab toolbar.
5. In the Top Viewport, create a line of vertices down the center of the bunker by clicking wherever you cross a triangle edge.
6. Click the **Interior Region Select** icon button from the toolbar panel.
7. Click the **Fit Selection** icon button from the Viewport Navigation toolbar.

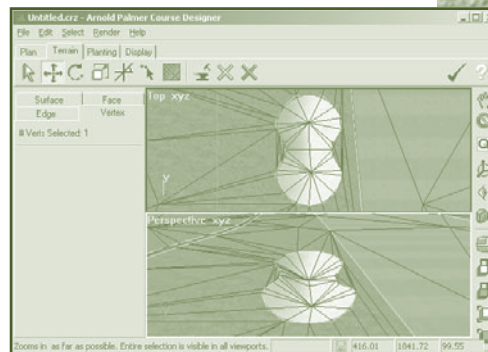
Note: Because all contouring is done three-dimensionally, the Perspective Viewport must be displayed. See chapter 9—“Display Options.”

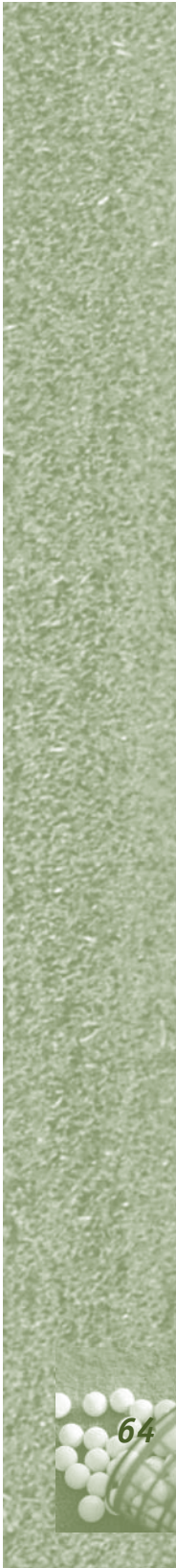
8. Click the right mouse button anywhere in the Perspective Viewport to make it the active viewport.

Note: If the vertices in the bunker are de-selected, press **CTRL+Z** to undo (and re-select them).

9. Press **F8** (to activate the z-axis in the Perspective Viewport).
10. Click the **Move** icon button from the tab toolbar.
11. Click any selected vertex in the bunker and drag to move the selected vertices up and down.

Note: A “shadowing” effect helps you determine how deep to make the bunker.





12. When the bunker terrain is where you want it, release the left mouse button.

Note: *This process can be used for greens or any other surface.*

13. Press **F9** (to reactivate the xy axes in the Perspective Viewport).

Simplifying the Terrain

As mentioned earlier, more vertices result in slower redraws, so you'll want to keep vertices to a minimum. Also, when shapes are inserted (especially handmade shapes), a phenomenon known as *fanning* may occur—a large number of edges converging on a single vertex. “Simplifying” the terrain refers to reducing the number of edges and vertices. This can be done by vertex or by area:

To simplify the terrain (by vertex)

1. Click the **Terrain** tab.
2. Click the **Vertex** sub-tab.
3. Click the **Simplify** icon button from the tab toolbar.
4. Select the **One Click Simplify** checkbox from the toolbar panel.
5. In the viewports, click any unnecessary vertices in a particular spot. The Course Designer will attempt to find a suitable simplification, if possible. If it can't be simplified, move to another spot.

To simplify the terrain (by area)

1. Click the **Terrain** tab.
2. Click the **Vertex** sub-tab.
3. In a viewport, click and drag the pointer to enclose an area within the box.
4. Set the Remove percentage (recommended: **25%**).

Note: *This determines what percentage of vertices the Course Designer will remove from the area. While you cannot control which vertices are removed, this is a quick way to simplify complex shapes such as rivers or cart paths.*

5. Click **Simplify** on the toolbar panel.

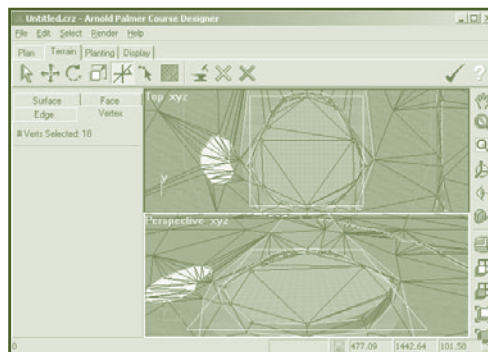
Note: *Click again to remove another 25% of the vertices.*

Tilting a Green

Most real-life greens are not flat, and “tilting” is a simple way to add slope.

To tilt a green

1. Position the Top Viewport so the green is displayed close up.
***Note:** Because tilting is done three-dimensionally, the Perspective Viewport must also be displayed. See chapter 9—“Display Options.”*
2. Click the **Terrain** tab.
3. Click the **Vertex** sub-tab.
4. Click the **Select** icon button from the tab toolbar.
5. Click the **Region Select** icon button from the toolbar panel.
6. In the Top Viewport, click anywhere on the green.
7. Click the **Tilt** icon button from the tab toolbar.
8. Right-click in the Perspective Viewport to make it active.
9. In the Perspective Viewport, move the pointer over the edge of the plane indicator (the yellow box) until the pointer changes to an inclined plane graphic.
10. Click and hold down the left mouse button while moving the mouse to tilt the green.
***Note:** You can tilt any side of the plane indicator.*
11. When finished, release the left mouse button.



Face

Face refers to the surface area of the terrain triangles. Clicking the Face sub-tab reveals a tab toolbar with nine icon buttons:



In addition to the five standard icon buttons (Select, Move, Rotate, Scale and Delete), there are these five:



Create—Add a new face or faces to fill holes or add to the edge of terrain.

Split—Create new faces by dividing existing faces.



Extrude—Separate a selected face or faces from the surrounding terrain (see below).

Texture Coordinate Mapping—A complex, advanced feature, which offers a variety of tools to help you make good terrain look great. Refer to Help (Topic: “Texture Coordinate Mapping”) for details.



Flatten Selection—Level the faces in a selected area.



Extruding a Bunker

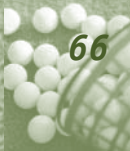
This is a unique function that can be used to create depth or height and is especially effective with bunkers.

To extrude a bunker

1. Position the Top Viewport so the bunker is displayed close up.

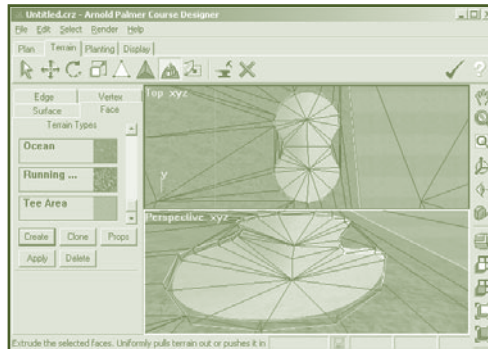
Note: *Because extruding is done three-dimensionally, the Perspective Viewport must also be displayed. See chapter 9—“Display Options.”*

2. Click the **Terrain** tab.
3. Click the **Face** sub-tab.
4. Click the **Select** icon button from the tab toolbar.
5. Click the **Region Select** icon button from the toolbar panel.
6. In a viewport, click anywhere in the bunker.
7. Click the **Extrude** icon button from the tab toolbar.
8. In the Perspective Viewport, click the highlighted bunker faces and hold down the left mouse button while moving the mouse to raise or lower the level of the bunker.



9. When finished, release the left mouse button.

Note: Extruding the bunker creates a section of terrain faces that have no assigned terrain type. This section must be assigned a terrain type (see following).



Assigning Terrain Types

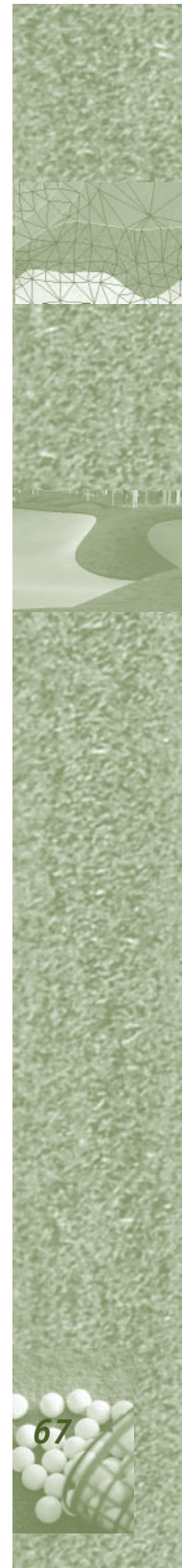
There are 18 different terrain types that can be assigned to faces: Rough, Fringe, Fairway, Green, Sand, Water, Desert, Concrete, Asphalt, Needles, Lava, Deep Grass, Mud, Dormant Grass, Ocean, Running Water, Tee Area, and None.

To assign a terrain type

1. Position the viewport(s) so the unassigned faces are displayed.
- Note:** In this case, the terrain mapping is done three-dimensionally, so the Perspective Viewport must be displayed. See chapter 9—“Display Options.”
2. Click the **Terrain** tab.
 3. Click the **Face** sub-tab.
 4. Click the **Select** icon button from the tab toolbar.
 5. Click the **Region Select** icon button from the toolbar panel.
 6. In the Perspective Viewport, click any of the unassigned faces.
 7. In the toolbar panel, under Terrain Types, select a terrain from the scroll-down menu.
 8. Click **Apply**.

Edge

Terrain edge functions are among the most complex and advanced in the Course Designer. While they offer interesting possibilities, they are beyond the scope of this walkthrough. Refer to Help (Topic: “Edge”) for more information.



Chapter 12

Planting

Planting is the process of adding anything other than terrain to the hole. This includes:

2D (two-dimensional) Objects—Trees, bushes, rocks, etc.

3D (three-dimensional) Objects—Clubhouses, bridges, etc.

People—Galleries, Media, Officials

Pins—Pin positions on the green

Tees—Tee positions on the tee box(es)

Environmental Sounds—Running water, birds, etc.

Planting Sets

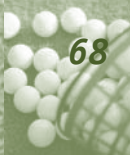
The Course Designer offers four predefined planting sets (Mountain, Tropical, Desert and Forest), which include a variety of 2D and 3D objects. You can also create your own planting set from the available objects.

To select a predefined planting set

1. Click the **Planting** tab.
2. Click the **2D** sub-tab.
3. Click **Object Library**.
4. From the Object Library dialog, click the **File** menu, and then **Open**.
5. Select a planting set (a .pst file), and then click **Open**. The planting set is ready to access.

To create a customized planting set

1. Click the **Planting** tab.
2. Click the **2D** sub-tab.
3. Click the **Object Library** button.
4. From the Object Library dialog, click the **Objects** tab, and then select an Object Type.
5. Select an object type from the Object Type drop-down menu.
6. All objects of the type you selected are displayed. Select one to add to your planting set.



Note: Double-click to view the object. When you're done, close the dialog.

7. Click **Add to Current Planting Set** to add the object to your planting set.
8. Repeat steps 4–7 to construct your planting set.
Note: Click the **3D Objects** radio button to make 3D objects available.
9. Click the **Planting Set** tab to view your list of objects.
10. When your planting set is complete, click the **File** menu from the Object Library dialog, and then click **Save As**.
11. Type in a name for your planting set, and then click **Save**.

2D Objects

Two-dimensional objects (i.e. trees, bushes, flowers, etc.) make up the majority of material you plant on the course. These can be planted one at a time, or “forested” in a selected area. The instructions below are for planting one object at a time:



To plant a 2D object

1. Click the **Planting** tab.
2. Click the **2D** sub-tab.
3. If you've already opened a planting set (see above), go to step 7. If not, click **Object Library**.
4. From the Object Library dialog, click the **File** menu, and then **Open**.
5. Select a planting set (a .pst file), and then click **Open**. The planting set is ready to access.
6. Close the Objects Library dialog.
7. From the toolbar panel, select an object type from the Object Type drop-down menu.
8. Select the object you want to plant from the Object Name scroll box.
9. Click the **Plant** icon button from the tab toolbar.

Note: To quicken the planting process, click the **Low** radio button under Object Resolution. This affects only the resolution of objects in the viewports, not in the finished course.



10. In any viewport, click every spot where you want to plant the object.

Note: If the object(s) is not correctly sized, change Object Size in the toolbar panel.

11. Repeat steps 7–10 for each different object.

Foresting

“Foresting” is a technique that allows you to fill a large area with one or more types of objects, such as trees or bushes.

To forest 2D objects

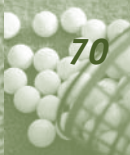
1. Click the **Plan** tab (not the Planting tab).
2. Click the **Create Shape** icon button from the tab toolbar.
3. Select **Terrain** under Assignment Type.
4. Select **None** under Selection.
5. Under Shape Options verify that neither check box selected.
6. In the Top Viewport, create a shape within which you want to forest.
- Note:** Refer to Help (Topic: “Create Shapes”) for instructions and more information.
7. Click the **Planting** tab.
8. Click the **2D** sub-tab.
9. If a planting set has already been selected (see preceding), select an object type from the Object Type drop-down menu in the toolbar panel.
10. Click the object you want to plant from the Object Name scroll box.

11. Click the **Forest** icon button from the tab toolbar.

12. At the bottom of the toolbar panel, enter a number in the Plant an object every box.

Note: This refers to the density of the foresting.

13. In a viewport, click the shape you want to “forest”.
14. When you’re ready, click **Plant Forest** in the toolbar panel.



3D Objects

Objects are three-dimensional only if they can be seen from different angles. This applies to objects such as clubhouses and bridges. 3D objects are planted using the same steps as 2D objects, with one exception:



To plant a 3D object

- Follow the instructions on “To plant 2D objects,” page 69, except on step 2, click the **3D** sub-tab.

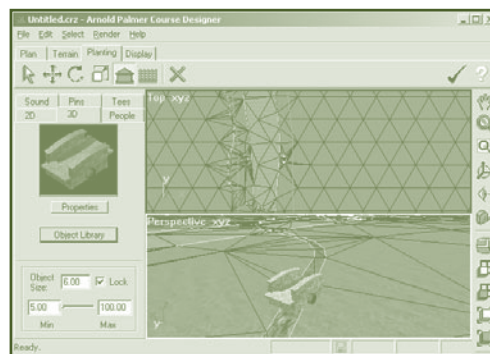


Note: 3D objects may need to be rotated. Also, both 3D and 2D objects may need to be scaled (made larger or smaller) after being planted.

To rotate a 3D object

- Center the object in the Top Viewport.

Note: Because rotating a 3D object is, by nature, three-dimensional, the Perspective Viewport must also be displayed. See chapter 9—“Display Options.”



- Press **F8** (to activate the z-axis in the Perspective Viewport).
- Click the **Rotate** icon button from the tab toolbar.
- Click the object. A box is displayed around the object.
- Hold down the left mouse button and move the mouse to rotate the object.
- When the object is rotated to the correct position, release the left mouse button.
- Press **F9** (to reactivate the xy axes in the Perspective Viewport).



To scale an object

1. Click the **Scale** icon button from the Planting tab toolbar.
2. Click and hold down the left mouse button while moving the mouse to scale the object.
3. When the object is properly scaled, release the left mouse button.

Planting Fences

Fences are unique 3D objects, but are planted in much the same way 2D objects are forested.

To plant a fence

1. Click the **Plan** tab (not the Planting tab).
2. Click the **Create Shape** icon button from the tab toolbar.
3. In the Top Viewport, create the fence's line.
***Note:** This is done in the same way as a river or cart path. See page 56—"To create a river."*
4. Click the **Planting** tab.
5. Click the **3D** sub-tab.
6. If a planting set has already been selected (see preceding), select an object type from the Object Type drop-down menu in the toolbar panel.
7. Click the object you want to plant from the Object Name scroll box.
8. Click the **Fence** icon button from the tab toolbar.
9. From the Planting Options box, enter Object Size (the height of the fence).



***Note:** The default size range of the object is displayed below.*

10. In a viewport, click the fence line.
11. Click **Plant Fence**.
12. From the Plant Fence dialog, select a *post* and *panel* object.
13. Click **OK**.

People

There are three types of people that can be planted on your course: Spectators (standing or sitting), Media, and Officials. Spectators, which make up the galleries, are typically in large groups around the tee boxes and greens. Media and Officials appear individually or in small groups and appear anywhere.



To plant spectators

1. Click the **Plan** tab (not the Planting tab).
2. Click the **Create Shape** icon button from the tab toolbar.
3. Select **Terrain** under Assignment Type.
4. Select **None** under Selection.
5. Under Shape Options, verify that neither check box is selected.
6. In the viewports, create a shape in which you want to plant a crowd.

Note: Refer to Help (Topic: "Create Shapes") for instructions and more information.

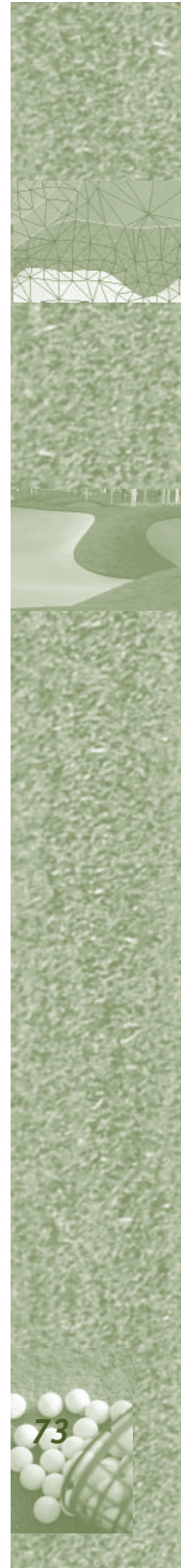
7. Click the **Planting** tab.
8. Click the **People** sub-tab.
9. From the toolbar panel, select **Standing Fan** (or Sitting) from the Object Type drop-down menu.
10. Click the **Plant Crowd** icon button.
11. At the bottom of the toolbar panel, enter a number in the Plant a person every... box.



Note: This refers to the density of the crowd.

12. In a viewport, click the shape you created to plant spectators.
13. When you're ready, click **Plant Crowd**.

Note: Links 2001 automatically selects a random group of spectators with each redraw.



To plant media people/officials

1. Click the **Planting** tab.
2. Click the **People** sub-tab.
3. From the toolbar panel, select **Media** or **Tournament Official** from the Object Type drop-down menu.
4. Click the **Plant Person** icon button.
5. In a viewport, click wherever you want to plant a media member/tournament official.



Note: *Links 2001* automatically selects a random group of media and/or tournament officials with each redraw.

To display people in Links 2001

1. Start **Links 2001**.
2. Click **Play Golf**, and then **New Round**.
3. From the New Round screen, select your course.
4. Under **Options**, click the drop-down arrow(s) and select Galleries and Tournament Objects options. When you start the new round, the people will appear on the course.

Pin Positions

Each hole on your course can have up to 18 different pin positions, which can be grouped in three sets of six, each set having a different degree of difficulty (Easy, Normal or Hard).



To plant pin positions

1. Position the Top Viewport so it displays the putting green.
2. Click the **Planting** tab.
3. Click the **Pins** sub-tab.
4. Verify that the selected hole in the toolbar panel is correct.
5. Click the **Plant Pin Position** icon button from the tab toolbar.
6. In the Top Viewport, click the putting green where you want to plant a pin position.



Note: *The Pin Number box displays the number of pins planted and the difficulty of each.*

7. Select the difficulty level for each pin position from the "Pin Difficulty Level" drop-down menu.

Tee Positions

“Tee position” refers to where the golfers hit from on a tee box. Each hole can have up to five tee positions.



To plant a tee position

1. Position the Top Viewport so it displays the tee box(es).
2. Click the **Planting** tab.
3. Click the **Tees** sub-tab.
4. Verify that the selected hole in the toolbar panel is correct.
5. Select the **Plant Tee-Off Position** icon button.
6. In the Top Viewport, click the tee box where you want to plant a tee position.

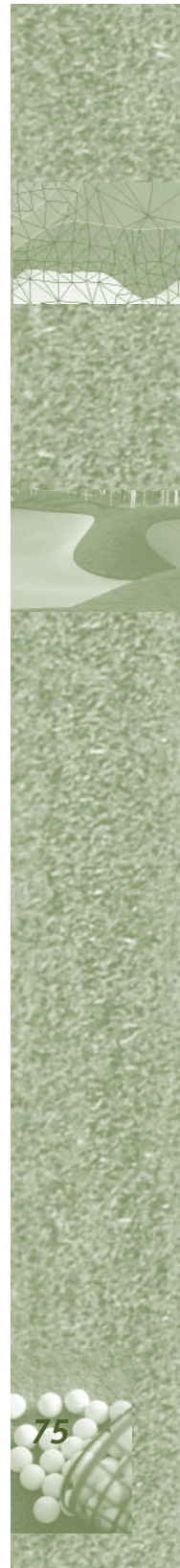


Notes

- When planting tee positions, the Yardage box (in the toolbar panel) displays the tee positions that have been planted and the yardage between each tee position and the center of the green.
- The Tees box (in the toolbar panel) displays the number of tee positions on the hole and each tee assignment (Back, Middle, Forward, Ladies or Junior).
- Tee positions can be rotated to face another direction.

To rotate a tee position

1. Click the **Planting** tab.
2. Click the **Tees** sub-tab.
3. Click the **Select** icon button from the tab toolbar.
4. In the Top Viewport, click the tee to select it.
5. Click the **Rotate** icon button from the tab toolbar.
6. In the Top Viewport, click where you want the tee to face.



Environmental Sounds

Sound effects (i.e. birds, insects, water, airplanes, etc.) add another layer of realism to your course.

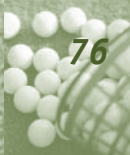


To plant environmental sounds

1. Click the **Planting** tab.
2. Click the **Sound** sub-tab.
3. Click **New** from the toolbar panel.
4. The New Sound Object dialog appears. Enter a name for the new sound, and then click **Add**.
5. Select a sound file (.wav), and then click **Open**.
6. From the New Sound Object dialog, click the Play icon button to hear the sound.

***Note:** Click **Add** again to include more than one sound file in your sound object.*

7. When finished, click **OK**. Select your sound object under Available in the toolbar panel.
8. Click the **Plant Sound** icon button from the tab toolbar.
9. In the Top Viewport, click where you want to plant the sound object.
10. Under Sound Instance in the toolbar panel, set the **Max. Radius**, which refers to how far the sound will carry (in yards).
11. Set the **Min. Radius**, which refers to the distance at which the sound will play at half volume.
12. Set the **Max Volume**. This will depend on the type of sound.
13. Set the **Avg. Wait**. Zero (seconds) will create a continuous loop of the sound (this is the correct setting for running water, for example). Twenty seconds would play a sound every 20 seconds on average.
14. Set the **Variance**. This determines the extremes of the Avg. Wait. For example, if Avg. Wait is set to 20 and Variance is set to 10, the sound will play every 20 seconds on average, never repeating within ten seconds and never waiting longer than 30 seconds to play.



Finalizing the Course

Once you've designed Hole #1, refined the terrain, and planted the 2D and 3D objects, you have a completely playable hole.

To play your Hole #1

1. Follow the steps for "Saving and Playing Your Course" (see following).
2. Exit the Arnold Palmer Course Designer.
3. Start **Links 2001**.
4. Click **Play Golf**, and then **Practice**. Your course will be included in the "Select Course" list.

The 18-Hole Layout

Another challenge of course design is laying out all 18 holes on the 1000x1000 yard terrain. Once you've finished Hole #1, we suggest that you use the Define Hole Path (see page 53) to lay out Holes 2–18, and then go back and flesh them out.

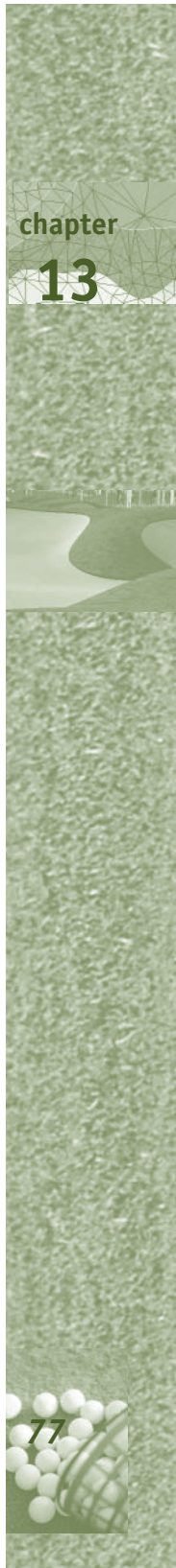
Sky and Panorama

One finishing touch we recommend is adding a sky and/or panorama to the course before you save it and play it. A *sky* is the ceiling over your course and a *panorama* is the background. The Course Designer offers several panoramas to choose from, or you can import one of your own. Skies cannot be customized, but there is a variety to choose from and they can be built into a custom panorama (see following).

To select a panorama and/or sky

1. Select **Course Properties** from the **Edit** menu.
2. Click the **Panorama** tab.
3. Select a panorama and/or sky from the drop-down menus.

Note: *Adjust the orientation of a panorama relative to the course by dragging the compass line left or right.*



To import a custom panorama

1. Click the **Plan** tab (or the Edit menu).
1. From the toolbar panel (or the Edit menu), click **Course Properties**.
2. Click the **Panorama** tab.
3. Select **Custom** from the Panorama drop-down menu.
4. Click **Import**.

***Note:** Imported panoramas must be 7680x720 pixel, 32-bit .tga files.*

Saving and Playing Your Course in Links 2001

When your course is finished and ready to play, you must save it in the Links 2001 directory.

To save your course

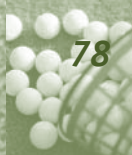
1. Select **Validate** from the **File** menu.
2. Select **Save As** from the **File** menu.
3. Type in a name for your course.
4. Save the course in the directory where Links 2001 was installed.

***Note:** Unless otherwise specified, the directory is C:\Program Files\Microsoft Games\Links 2001\Courses.*

5. Click **OK**.

To play your course

1. Exit the Arnold Palmer Course Designer.
2. Start **Links 2001**.
3. Use either Quick Start or Play Golf to start a new round. Your course will be included in the "Select Course" list.

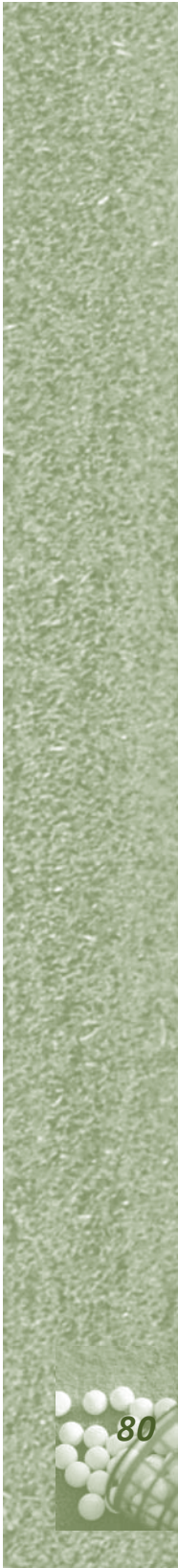


Chapter 14

Keyboard Shortcuts

| | | | |
|---------------------------------------|-----------|----------------------|----------|
| Save | Control+S | Bottom Viewport | Shift+F2 |
| Undo | Control+Z | Front Viewport | F3 |
| Redo | Control+Y | Back Viewport | Shift+F3 |
| Select All | Control+A | Right Viewport | F4 |
| Deselect All | Control+D | Left Viewport | Shift+F4 |
| Layout Sub-tab | 1 | Perspective Viewport | F5 |
| Surface Sub-tab | 2 | Toggle Grid | Shift+A |
| Vertex Sub-tab | 3 | Toggle Verts | Shift+S |
| Edge Sub-tab | 4 | Toggle Hull | Shift+D |
| Face Sub-tab | 5 | Toggle Surface | Shift+F |
| 2D Sub-tab | 6 | Toggle 2D Objects | Shift+G |
| 3D Sub-tab | 7 | Toggle 3D Objects | Shift+X |
| People Sub-tab | 8 | Toggle Textures | Shift+C |
| Sound Sub-tab | 9 | Toggle Shapes | Shift+V |
| Pins Sub-tab | 0 | Pan | X |
| Tees Sub-tab | - | Zoom | Z |
| Display Sub-tab | = | Box Zoom All | B |
| Make X the active axis in a viewport | F6 | Navigate | N |
| Make Y the active axis in a viewport | F7 | Line of Sight | V |
| Make Z the active axis in a viewport | F8 | Tape Measure | ' |
| Make XY the active axis in a viewport | F9 | Toggle Fullscreen | W |
| Make YZ the active axis in a viewport | F10 | Fit Course All | Shift+Q |
| Make ZX the active axis in a viewport | F11 | Fit Selection All | Shift+W |
| Top Viewport | F2 | Fit Course | Shift+E |
| | | Fit Selection | Shift+R |
| | | Select Crossing | Shift+T |
| | | Select Containing | Shift+Y |
| | | Lock Selection | Space |
| | | Checklist | / |

chapter 14



Layout:

| | |
|------------------|--------|
| Select | S |
| Move | M |
| Rotate | R |
| Scale | L |
| Define Hole Path | D |
| Create Shape | C |
| Adjust Shape | A |
| Copy Shape | O |
| Insert Shape | I |
| Group Shapes | G |
| Ungroup Shapes | U |
| Delete | Delete |

Surface:

| | |
|-----------------|--------|
| Select | S |
| Move | M |
| Rotate | R |
| Scale | L |
| Delete | Delete |
| Flatten | F |
| Terrain Builder | T |
| Terrain Painter | P |
| Extrude | E |

Face:

| | |
|----------------------------|--------|
| Select | S |
| Move | M |
| Rotate | R |
| Scale | L |
| Delete | Delete |
| Flatten | F |
| Create | C |
| Split | P |
| Extrude | E |
| Texture Coordinate Mapping | T |

Edge:

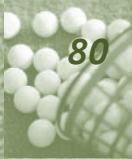
| | |
|-----------|--------|
| Select | S |
| Move | M |
| Rotate | R |
| Scale | L |
| Sharpness | H |
| Split | P |
| Turn | T |
| Collapse | C |
| Delete | Delete |

Vertex:

| | |
|-----------------------|--------------|
| Select | S |
| Move | M |
| Rotate | R |
| Scale | L |
| Tilt Selection | T |
| Add | A |
| Simplify | I |
| Delete | Delete |
| Nondestructive Delete | Shift+Delete |
| Flatten | F |

2D:

| | |
|--------|--------|
| Select | S |
| Move | M |
| Scale | L |
| Plant | P |
| Forest | F |
| Delete | Delete |



3D:

| | |
|--------|--------|
| Select | S |
| Move | M |
| Rotate | R |
| Scale | L |
| Plant | P |
| Fence | F |
| Delete | Delete |

People:

| | |
|--------------|--------|
| Select | S |
| Move | M |
| Plant Person | P |
| Plant Crowd | C |
| Delete | Delete |

Sound:

| | |
|--------|--------|
| Select | S |
| Move | M |
| Plant | P |
| Delete | Delete |

Pins:

| | |
|--------------------|--------|
| Select Pin | S |
| Move Pin | M |
| Plant Pin Position | P |
| Delete Pin | Delete |

Tees:

| | |
|------------------------|--------|
| Select Tee | S |
| Move Tee | M |
| Rotate Tee | R |
| Plant Tee-Off Position | P |
| Delete Tee | Delete |

Views:

| | |
|-----------------|---|
| Layout | L |
| Field of View | F |
| Display Options | D |
| Render Options | R |

